Aptitude and Mental Ability

TNPSC Group Exam Topics

1. **Percentage**
2. **HCF, LCM**
3. **Ratio and Proportion**
4. **Simple and Compound Interest**
5. **Area, Volume**
6. **Time and work**
7. **Number series**
8. **Puzzles - Dice**
9. **Decision making and Problem solving, Logical reasoning Visual Reasoning , Alpha numeric reasoning**
10. **Logical number/Alphabetical/Diagrammatic sequences**
11. **Conversion of Information to data - Collection, compilation and presentation of data tables, graphs, diagrams – Analytical interpretation of data.**
12. **Simplification**
13. **Probability**

Topic 1: Precentage Sums

1. The difference between the cost price and sale price of an article is Rs.240. If the profit is 20% the selling price is
   a. Rs.1,240 b. Rs.1,200 c. Rs.1,640 d. Rs.1,440

   Ans: d

2. Raman buys a washing machine for Rs.13,500 and sells it at a loss of 12%. What is the selling price of the washing machine?
   a. 11,880 b. 11,800 c. 13,500 d. 11,870

   Ans: a

3. The cost price of 21 pens is equal to the selling price of 20pens. The loss or gain percent is
   a. 20% b. 5% c. 10% d. 15%

   Ans: 5%

4. The price of a house is decreased from rupees fifteen lakhs to rupees twelve lakhs. The percentage of decrease is
   a. 10% b. 20% c. 30% d. 40%

   Ans: b

5. A man bought an old bicycle for Rs.1, 500. He spends Rs.500 on its repair and sells it for Rs.1,800. Find the percentage of his loss.
   a. 10% b. 15% c. 20% d. 5%

   Ans: a

6. Find the single discount equivalent to a series discount of 20%, 10% and 5%.
   a. 32% b. 21.6% c. 31.6% d. 32.6%

   Ans: c

7. A TV set was sold for Rs.14,400 after giving successive discounts of 10% and 20% respectively. What was its market price?
   a. Rs.21,000 b. Rs.9,000 c. Rs.20,500 d. Rs.20,000

   Ans: d

8. A bicycle marked at Rs. 1,500 is sold for Rs. 1,350. What is the percentage of discount?
   a. 5% b. 15% c. 10% d. 20%

   Ans: c

9. If in a class students of 50, 23 were girls and rest were boys, then the percentage of boys is
   a. 46% b. 54% c. 64% d. 45%

   Ans: b

10. In a class of 50 students, 27 of them are female students others are male students. Then, find the percentage of male and female students.
    a. 46%, 54% b. 54%, 46% c. 27%, 23% d. 23%, 27%

    Ans: a

11. An alloy consists of 30% copper and 40% zinc and the remaining is nickel. Find the amount of nickel in 20kilograms of the alloy.
    a. 6Kg b. 4 kg c. 10 kg d. 12 kg

    Ans: a

12. The population of a city in the year 2014 is 1, 80,000 and increases at a rate of 20% per year. Find the population of the city in the year 2016?
    a. 2,40,000 b. 2,59,200 c. 2,55,000 d. 2,54,300

    Ans: b

13. If the population of a village is 50,00 , 40% of them are men, 20% of them are children and the rest are women. Then the number of women,
    a. 10,000 b. 20,000 c. 30,000 d. 40,000

    Ans: b

14. The difference of two numbers is 20% of the larger number. If the smaller number is 20 then the larger number is
    a. 25 b. 45 c. 50 d. 80

    Ans: a

15. 15% of the total numbers of biscuits in a bottle is 30. Find the total number of biscuits in the bottle.
    a. 100 b. 200 c. 150 d. 300

    Ans: b

16. Find the number which is 12% less than 250.
    a. 220 b. 215 c. 200 d. 245

    Ans: a

17. The number which is 15% less than 240 is
    a. 204 b. 206 c. 203 d. 205

    Ans: a

18. Find the number which is 15% less than 120
    a. 100 b. 102 c. 104 d. 98

Ans: b

19. If 30% of a = 60 then find a.
    a. 200 b. 50 c. 250 d. 100

    Ans: a

20. If 50% of (x-y) = 30% of (x+y) then what percent of x is y?
    a. 20% b. 24% c. 25% d. 23%

    Ans: c

21. 40% of 1640 + ? = 35% of 980 + 150% of 850
    a. 962 b. 692 c. 926 d. 629

    Ans: a

22. If $\sqrt{784}$ + x = 78% of 500 then the value of x is
    a. 342 b. 352 c 362 d. 372

    Ans: c (repeated)

23. If x % of y is 100 and y % of z is 200, then the relation between x and z
    a. z = x/2 b. z = 2x c. z = x/4 d. z = 4x

    Ans: b

24. What percent of 3x is 6y if x = 4y?
    a. 20% b. 30% c. 40% d. 50%

    Ans: d

1. The cost price of a cow is Rs.6000. What is the selling price in order to make a profit of 30%?
   a. 1800 b. 7000 c. 7800 d. 9000

   Ans: c

2. A cow is sold for Rs.2400 at a profit 20%. Find the cost price.
   a. Rs.1000 b. Rs.2000 c. Rs.1800 d. Rs.1500

   Ans: b

3. On selling 12notebooks, a seller makes a profit equal to the selling price of 4 notebooks, what is his gain percent?
   a. 20% b. 30% c. 40% d. 50%

Ans: d

4. On selling a chair at 7% loss and a table at 17% gain, a man gains 296. If he sells the chair at 7% gain and table at 12% gain then he gains Rs.400. The actual price of the table is
   a. Rs.1400 b. Rs.2400 c. Rs.400 d.Rs.800

   Ans: b

5. After getting two successive discounts, a shirt with a cost price o Rs.150 is available at Rs.105. If the second discount is 12.5% find the discount.
   a. 10% b. 15% c. 20% d. 16%

   Ans: c

6. The price of a cloth is increased by 60%. How many percent should a family reduce its expenditure of cloth so as not to increase its monthly expenditure?
   a. 37.5% b. 35.5% c. 60.5% d. 40.5%

   Ans: a

7. The price of the oil is decreased by 25%. If the expenditure is not decreasing, the ratio between the original consumption and the increase in consumption is
   a. 3:1 b. 4:3 c. 4:1 d. 5:2

Ans: a

8. The price of an article is reduced by 25% and its daily sale is increased by 30%. Find the net effect on the daily sale receipts?
   a.$2\frac{1}{2}$% increase b. $2\frac{1}{2}$% decrease c. 2% increase d. 2% decrease

Ans: b

9. 5% of income of A is equal to 15% of income of B and 10% of income of B is equal to 20% of income of C. If C's income is Rs.2000 then the total income of A, B and C is
   a. Rs.6000 b. Rs.14000 c. Rs.18000 d. Rs.20000

   Ans: c

10. If A's salary is 25% less than B's salary, by how much percent is B's salary more than A's?
    a.$33\frac{1}{2}$% b. 20% c. 40% d. 12%

    Ans: a

11. In 2011, the population of a town is 2,50,000. If it is increased by 10% in the next year, find the population in 2012.
    a. 2,65,000 b. 2,75,000 c. 2,85,000 d. 3,00,000

    Ans: b

12. 40quintals is what percent of 2metric tonnes?
    a. 2% b. 20% c. 150% d. 200%

    Ans: d

13. What percent is 20paise of 5rupees 80paise?
    a. $2\frac{13}{29}\%$ b. $3\frac{13}{29}\%$ c. $4\frac{13}{29}\%$ d. $5\frac{13}{29}\%$

    Ans: b

14. If A is 80% of B and B is 20% of c then what percent of A is C?
    a. 200 b. 600 c. 500 d. 625

Ans: d

15. If a = 5b what percent of 3a is 3b?
    a. 10% b. 20% c. 25% d. 26%

    Ans: b

Profit and Loss

Example Sums

1. A seller says the cost of an item at a profit of 3%. Then he gives a discount of 3%. Then he sells the item at
   a. A profit of 0.09% b. a loss of 0.09% c. a profit of 9% d. no loss or no profit

   Ans: b

2. By selling an article for Rs.480, a person lost 20%. For what amount should he sell it to make a profit of 20%?
   a. Rs.800 b. Rs.760 c. Rs.720 d. Rs.680

   Ans: c

3. If the price of a book is first decreased by 20% and then increased by 20% then the net change in the price will be
   a. No change b. 5% increase c. 4% decrease d. 10% decrease

   Ans: c

4. The cost of three Tamil books and four general knowledge books is Rs.432. If the cost of three Tamil books is the same as that of four general knowledge books, the cost of general knowledge books is

a. 72 b. 54 c. 36 d. 48

Ans: b

5. By selling goods at Rs.36, a merchant loses 10% on his outlay. Find the percentage of profit when he sells the same at Rs.45.
   a. 16.5% b. 13.5% c. 9% d. 12.5%

   Ans: d

6. A 2 wheeler's market price is Rs.75000. The vendor allows successive discounts of 10%, 8% and 5% on it. What is its selling price?
   a. 50,000 b. 57,750 c. 58,995 d. 55,000

   Ans: c

7. A shopkeeper gives a discount of 10% on the marked price of a watch but he gains 10%. If the marked price is Rs.330, what is the cost price?
   a. Rs.270 b. Rs.300 c. Rs280 d. Rs.250

   Ans: a

8. After successive discounts of 12% and 5% an article was sold for Rs.209. What was the original price of the article?
   a. 226 b. 252 c. 250 d. 269

   Ans: c

9. A number is decreased by 10% and then increased by 10%. The number so obtained is 10less than the original number. What was the original number?
   a. 2000 b. 1000 c. 500 d. 100

   Ans: b

10. A man saves Rs.3000 per month from his total salary of Rs.20000. The percentage of his savings is
    a. 5% b. 10% c. 15% d. 20%

    Ans: c

11. In 2013, the population of a town is 1,25,000. If it is increased by 7% in the next year. Find the population in 2014.
    a. 8750 b. 1,33,750 c. 1,16,250 d. 1,25,000

    Ans: b

12. In an half yearly examination 60% of the candidate failed in Physics and 40% failed in Mathematics. If 15% of the candidate failed in both subjects and 7500 students passed in both then the total number of candidates are
a. 50,00 b. 45,000 c. 75,000 d. 60,000

Ans: a

13. A student multiplied a number by 3/5 instead of 5/3. What is the percentage error in the calculation?
a. 64% b. 54% c. 44% d. 34%

Ans: a

14. The ratio of number of boys and girls in a college is 6:5. If the % increase in the number of boys and girls be 25% and 10% respectively, what will be the new ratio?
a. 15:11 b. 10:15 c. 15:13 d. 11:7

Ans: a

15. A road transport accepts 72% of the auto meters in working condition. How many will he examine to accept 270 auto meter?
a. 375 b. 470 c. 475 d. 720

Ans: a

16. A's salary is half that of B. If A got a 50% rise in his salary and B got a 25% rise in his salary, then the percentage increase in combined salaries of both is
a. $33\frac{1}{3}\%$ b. 72% c. 36% d. 33%

Ans: a

17. Ramkumar spends 70% of his income. His income is increased by 15% and he increased his expenditure by 10%. Find the percentage increase in his savings.
a. 76.67% b. 36.6% c. 26.67% d. 15%

Ans: c

18. In a hotel, 60% had vegetarian lunch whole 30% had non vegetarian lunch and 15% had both types of lunch. If 96 people were present, how many did not have either type of lunch?
a. 20 b. 24 c. 26 d. 28

Ans: b

19. Two candidates fought an election. The winner got 65% of votes and won by 300 votes majority. What is the total number of votes polled?
a. 350 b. 650 c. 1000 d. 3000

Ans: c

20. In an election, 30% of the voters voted for candidate A, whereas 60% of the remaining voted for candidate B. The remaining voters did not vote. If the difference between those who voted for candidate A and those who did not vote was 1200, how many were eligible for casting vote in that election?
a. 40,000 b. 50,000 c. 60,000 d. 6,000

Ans: c

21. In an examination 80% of the total candidates passed in English and 70% in mathematics while 20% failed in both. If total number of candidates failed is 450, find the total number of candidates.
a. 1800 b. 1500 c. 1000 d. 1200

Ans: b

22. What percentage of students does not like computer science

Subject	No. of students
Mathematics	6
Physics	12
Chemistry	15
Biology	8
Computer Science	9

a. 91% b. 9% c. 82% d. 18%

Ans: c

23. If 18% of the total number of oranges in a basket is 36. Then the total number of oranges is
a. 100 b. 150 c. 200 d. 300

Ans: c

24. How many litres of pure acid are there in 10litres of 30% solution of acid?
a. 1.5 b. 3 c. 4.5 d. 4

Ans: b

25. If A's salary is 20% less than B's salary by how much percent is B's salary more than A's?

a. 24% b. 25% c. 20% d. 22%

Ans: b

26. If 50% of (x-y) = 30% of (x+y) then what percent of x is y?
    a. 25% b. 50% c. 75% d. 100%

    Ans: a

27. Find x if 45% of x + 30% of 90 = 30% of 120
    a. 30 b. 45 c. 20 d. 25

    Ans: c

28. What will be 60% of a number whose 300% is 120?
    a. 12 b. 24 c. 36 d. 48

    Ans: b

29. 30% of a number is 15 less than $3/5^{th}$ of that number. What is the number?
    a. 48 b. 52 c. 50 d. 70

    Ans: c

30. What is 25% of 25% equal to?
    a. 6.25 b. 0.625 c. 0.0625 d. 0.00625

    Ans: c

31. If 40% of 1640 + x = 35% of 980 + 150% of 850, find the value of x
    a. 1052 b. 842 c. 962 d. 372

    Ans: c

HCF, LCM

1. The least common multiple of 24, 36 and 40 is
   a. 340 b. 360 c. 230 d. 400

   Ans: b

2. The LCM of 148 and 185 is
   a. 690 b. 760 c. 740 d. 1010

   Ans: c

3. Find the LCM of 8, 15, 24 and 72

a. 350 b. 360 c. 720 d. 735

Ans: b

4. LCM of a^k, a^{k+3}, a^{k+5} for all k ∈ N is
   a. a^{k+9} b. a^k c. a^{k+6} d. a^{k+5}

Ans: d

5. Find the Least common multiple of $(2x^2 - 8), (3x^2 - 9x + 6)$ and $(6x^2 + 18x + 12)$
   a. 2(x+2) (x+1)(x-1)(x+3)
   b. 3(x-2) (x+1)(x+3)(x-1)
   c. 6 (x-2) (x+2)(x+1)(x-1)
   d. 6(x+2) (x-1)(x-2)(x+3)

Ans: c

6. Find the LCM of a^3b^4, ab^5 a nd a^2b^7
   a. a^7b^3 b. a^3b^7 c. a^2b^5 d. ab^5

Ans: b

7. HCF of 513 and 1134 is
   a. 9 b. 81 c. 27 d. 31

Ans: c

8. HCF of $\frac{81}{576}, \frac{729}{288}, \frac{6561}{144}$
   a. $\frac{81}{576}$ b. $\frac{81}{144}$ c. $\frac{81}{288}$ d. $\frac{81}{72}$

Ans: a

9. The HCF of 3556 and 3444 is
   a. 28 b. 32 c. 43 d. 18

Ans: a

10. The HCF of $x^2 + 4x - 12$, $x^3 + 6x^2 - 16x$
    a. x + 2 b. x – 2 c. 2-x d. x(x-2)

Ans: b

11. The HCF of $x^3 + 1$ and $x^4 - 1$ is
    a. $x^3 - 1$ b. $x^3 + 1$ c. x + 1 d. x – 1

Ans: c

12. The LCM and HCF of two numbers are 45 and 3 respectively, their sum is 24, what is their difference?
    a. 2 b. 4 c. 6 d. 8

    Ans: c

13. The product of two numbers is 4107 and their HCF is 37. The larger number is
    a. 185 b. 111 c. 107 d. 101

    Ans: b

14. The LCM of two numbers is 495 and their HCF is 5. If the sum of the two numbers is 100, then find the difference of the two numbers
    a. 10 b. 46 c. 70 d. 90

    Ans: a

15. The LCM of two numbers is 48. The numbers are in the ratio 2:3 the sum of the numbers is
    a. 35 b. 40 c. 60 d. 111

    Ans: b

16. Three numbers are in the ratio 1:2:3 and their HCF is 12. The numbers are
    a. 4, 8, 12 b. 5, 10, 15 c. 10, 20, 30 d. 12, 24, 36

    Ans: d

17. The ratio of two numbers is 3:4 and their HCF is 4. Their LCM is
    a. 12 b. 16 c. 24 d. 48

    Ans: d

18. Find the greatest number that will divide 43, 91 and 183 so as to leave the same remainder in each case
    a. 4 b. 7 c. 9 d. 13

    Ans: a

19. The greatest number of 4 digits which is divisible by 20, 25, 40 and 75 is
    a. 9600 b. 3000 c. 9800 d. 8540

    Ans: b

20. Find the greatest number of four digits which is divisible by 15, 25, 40 and 75.
    a. 9000 b. 9400 c. 9600 d. 9800

    Ans: c

21. The greatest number of 4 digit which is divisible by 20, 25, 60 and 100 is
    a. 2000 b. 4000 c. 5000 d. 6000

    Ans: d

22. Find the smallest number which when diminished by 7, is divisible by 12, 16, 18, 21 and 28.
    a. 1008 b. 1015 c. 1022 d. 1032

    Ans: b

23. Six belles commence tolling together, afterwards they toll at intervals of 2, 4, 6, 8, 10 and 12 seconds respectively. In 30minutes, how many times do they toll together?
    a. 4 b. 10 c. 15 d. 16

    Ans: d (repeated in 2016, 2015)

24. LCM of two prime numbers x and y (x>y) is 161. The value of 3y-x is
    a. -2 b. -1 c. 1 d. 2

    Ans: a

25. If the highest common factor of 65 and 117 is expressed in the form of 65m + 117n, then find the value of m and n.
    a. 3, 2 b. 3, -1 c. 2, -1 d. 2, -3

    Ans: c

1. Find least common multiple of 4/5, 3/10 and 7/15.
    a. 84/5 b. 5/84 c. 2/15 d. 12/15

    Ans: a

2. $K \in N$; a^k, a^{k+3}, a^{k+5} find LCM
    a. a^{k+9} b. a^k c. a^{k+6} d. a^{k+5}

    Ans: d

3. The LCM of 1/3, 5/6, 2/9, 4/27 is
    a. 1/54 b. 10/27 c. 20/3 d. None of these

    Ans: c

4. Find the LCM of 4^5, 4^{-81}, 4^{12} and 4^7.
    a. 4^{12} b. 4 c. 4^2 d. 4^{-2}

Ans: a

5. Find the HCF of 4/9, 2/5, 6/8, 2/5
   a. 1/180 b. 2/481 c. 2/350 d. 1/142

   Ans: a

6. The HCF of two numbers is 8, which one of the following can never be their LCM?
   a. 24 b. 48 c. 56 d. 60

   Ans: d

7. The product of the two numbers is 900. If the LCM of these two numbers is 300, then find HCF.
   a. 3 b. 6 c. 9 d. 12

   Ans: a

8. The product of two co-prime numbers is 117. Their least common multiple is
   a. 351 b. 39 c. 234 d. 117

   Ans: d

9. Two numbers are in the ratio 3:4 and the product of their LCM and HCF is 10800. The sum of the numbers is
   a. 180 b. 210 c. 225 d. 240

   Ans: b

10. Three numbers are in the ratio 1:2:3. Their highest common factor is 12. Find the numbers.
    a. 12, 24, 36 b. 24, 48, 72 c. 12, 24, 48 d. 48, 60, 72

    Ans: a

11. If the two numbers are in the ratio of 2:3 and the product of their highest common factor and least common multiple is 150, then find the sum of the numbers.
    a. 5 b. 10 c. 20 d. 25

    Ans: d

12. Find the least number which when divided by 5, 6, 7 and 8 leaving a remainder 3, but when divided by 9 leaves no remainder?
    a. 1677 b. 1683 c. 2523 d. 3363

    Ans: b

13. The greatest number that will divide 137, 182 and 422 leaving a remainder 2 in each case is,
    a. 15 b. 21 c. 12 d. 22

    Ans: a

14. The greatest number that will divide 137, 182 and 422 leaving a remainder 2 in each case is
    a. 15 b. 21 c. 12 d. 22

    Ans: a

15. The greatest number which on dividing 1657 and 2037 leaves remainders 6 and 5 respectively is
    a. 123 b. 127 c. 235 d. 305

    Ans: b

16. What is the largest number by which when 2109, 2790 and 3471 are divided then 1, 2 and 3 are obtained as remainders respectively?
    a. 48 b. 68 c. 38 d. 86

    Ans: b

17. The greatest possible length which can be used to measure exactly the lengths 4m 95cm, 9m 45cm and 16m65cm is
    a. 45cm b. 35cm c. 25cm d. 15cm

    Ans: a

18. The greatest number that exactly divides 105, 1001 and 2436 is
    a. 7 b. 3 c. 9 d. 5

    Ans: a

19. The least number exactly divisible by 12, 15, 18, 21 is
    a. 68040 b. 34020 c. 2510 d. 2520

    Ans: d

1. The LCM of $a^3 + b^3$ and $a^4 - b^4$ is
    a. $(a^3 + b^3)$ (a − b)
    b. $(a^2 + b^2)$ $(a - b)$
    c. $a + b)^3$
    d. $(a^3 + b^3)$ $(a^2 + b^2)$) (a-b)

Ans: d

2. The LCM of $2^3 \times 3^2 \times 5 \times 11$, $2^4 \times 3^4 \times 5^2 \times 7$, $2^5 \times 3^3 \times 5^3 \times 7^2 \times 11$

(A) $2^5 \times 3^4 \times 5^3$ (B) $2^5 \times 3^4 \times 5^3 \times 7^2 \times 11$

(C) $2^3 \times 3^2 \times 5 \times 7 \times 11$ (D) $2 \times 3 \times 5 \times 11 \times 7$

Ans: b

3. HCF of $2(x^2 - y^2)$, $5(x^3 - y^3)$
   a. X-y b. 2(x-y) c. 10(x-y)

   Ans: a

4. The HCF and LCM of two numbers are 12 and 144 respectively. If one number is 36, find the other number.
   a. 49 b. 50 c. 36 d. 48

   Ans: d

5. LCM of two numbers is 14 times their HCF. The sum of LCM and HCF is 600. If one number is 280 then the other number is
   a. 40 b. 60 c. 80 d. 100

   Ans: c

6. The product of HCF and LCM of two expressions is equal to the
   a. Sum of two expressions b. square of HCF c. Product of expressions d. Square of LCM

   Ans: c

7. The product of two co-prime numbers is 117. Their LCM should be
   a. 1 b. 117 c. 1/117 d. None of these

   Ans: b

8. Three numbers are in the ratio 3:4:5 and their LCM is 240. Then the HCF of these number is
   a. 4 b. 8 c. 12 d. 20

   Ans: a

9. Three numbers are in the ratio 1:2:3 and their HCF is 12. The numbers are
   a. 4,8,12 b. 5,10,15 c. 12,24,36 d. 10,20,30

Ans: c

10. A number when divided by 2, 3, 4, 5 and 6 leaves remainder 1, 2, 3, 4 and 5, it is divisible by 7, then the least possible number is
    a. 117 b. 119 c. 113 d. 121

    Ans: b

11. The sum of two numbers is 187 and their HCF is 17. What is the number of such pairs of numbers satisfying the above conditions?
    a. 1 b. 4 c. 5 d. 7

    Ans: c

12. The smallest 6 digit number which is exactly divisible by 111 is
    a. 1,00,111 b. 1,00,000 c. 1,00,011 d. 1,11111

    Ans: c

13. The least number which when increased by 1 is divisible by 12, 18, 24, 32 is
    a. 278 b. 288 c. 287 d. 279

    Ans: c

14. Find the greatest number which will divide 3322 and 3832 leaving the remainder 7?
    a. 75 b. 255 c. 80 d. 81

    Ans: b

Ratio and Proportion

1. The sum of the two numbers is 40 and their difference is 4. The ratio of the numbers is
    a. 11:9 b. 10:7 c. 20:12 d. 11:12

    Ans: a

2. The ratio of two numbers is 4:7. On subtracting 10 from each number, the ratio becomes 1:2 then the greater number is
    a. 40 b. 70 c. 80 d. 100

    Ans: b

3. Three numbers are in the ratio 4:5:6 and their average is 25. The largest number is

a. 35 b. 40 c. 45 d. 30

Ans: d

4. The product of three number with the ratio 1:2:3 is 750, then the sum of their squares is
   a. 350 b. 600 c. 450 d. 400

   Ans: a

5. Two numbers are 10% and 15% less than a third number. Find the ratio of the two numbers.
   a. 9: 16 b. 9 : 14 c. 13 : 16 d. 18 : 17

   Ans: d

6. The sum of the two numbers is 116 $\frac{2}{3}$ % of the second number, then the ratio of the first number to the second number is
   a. 1:6 b. 3:7 c. 7:3 d. 7:4

   Ans: a

7. In a bag there are coins of 25p, 10p and 5p in the ratio 1:2:3. If there are Rs.30 in all then the number of 5p coins are
   a. 200 b. 30 c. 150 d. 250

   Ans: c

8. Ten years ago, the ages of X and Y were in the ratio 1:3. The ratio of their present ages is 2:1. Their present ages are
   a. 40, 20 b. 20, 10 c. 30, 15 d. 60, 30

   Ans: a

9. Three partners A, B and C invest Rs.36,000, Rs.45,000 and Rs.54,000 respectively in a business. Out of a total profit of Rs.37,500, C's share is
   a. Rs.12,500 b. Rs.15,000 c. Rs.10,000 d. Rs.15,500

   Ans: b

10. A sum of Rs.53 is divided among ABC in such a way that A gets Rs.7 more than what B gets and B gets Rs.8 more than what C gets. The ratio of their share is
    a. 16:9:18 b. 25:18:10 c. 18:25:10 d. 15:8:30

    Ans: b

11. In a village of 1, 21,000 people, the ratio of men to women is 6:5. The number of men
    a. 33,000 b. 66,000 c. 55,000 d. 44,000

    Ans: b

12. Divide Rs.672 in the ratio 5:3
    a. Rs.420, Rs.252 b. Rs.520, Rs.152 c. Rs.430, Rs.242 d. Rs.460, Rs.212

    Ans: a

13. If a:b = 5:9 and b:c = 4:7 find a:b:c
    a. 20:36:63 b. 15:25:60 c. 10:!8:45 d. 6:18:54

    Ans: a

14. If x : y = 5 : 2 then (8x+9y) : (8x+2y) is
    a. 22: 29 b. 26:61 c. 29: 22 d. 61: 26

    Ans: c

15. If A : B: C = 2: 3: 4 then $\frac{A}{B} : \frac{B}{C} : \frac{C}{A}$ is equal to
    a. 8: 9: 24 b. 9: 24: 8 c. 4: 6: 9 d. 5: 9: 6

    Ans: a

16. If A:B = 3:4 and B:C = 8:9 then A:C is
    a. 1:3 b. 3:2 c. 2:3 d. 1:2

    Ans: c

17. If A:B = 5:7 and B:C = 6:11 then A:B:C is
    a. 30:42:77 b. 40:35:27 c. 20:15:17 d. 15:20:30

    Ans: a

18. If a:b = 6:7 and b:c = 8:9 then a:c is equal to
    a. 16:21 b. 6:9 c. 27:28 d. 1:2

    Ans: a

19. If A:B = 8:15, B:C = 5:8 and C:D = 4:5 then A:D is equal to
    a. 2:7 b. 4:15 c. 8:15 d. 15:4

    Ans: b

20. If A:B = 2:3 and B:C = 4:5 then find the ratio of C:A
    a. 15:8 b. 8:15 c. 5:4 d. 5:20

Ans: a

21. If a:b = 2:3, b:c = 6:5 and a+b+c = 30, then 2a+3b+4c is
    a. 30 b. 92 c. 100 d. 90

    Ans: b

22. If a:b = 3:5 and b:c = 7:8 then a:c will be
    a. 21:40 b. 40:21 c. 22:42 d. 42:22

    Ans: a

23. Which of the following ratios is greatest?
    a. 7:15 b. 15:23 c. 17:25 d. 21:29

    Ans: d

24. If 2x + 3y – 5z = 0 and -3x + 2y + 7z = 0 then the ratio x:y:z is equal to
    a. 31: 1: 13 b. 1: 13: 31 c. 2:3:5 d. 13:7:5

    Ans: a

25. Find the missing term in the following proportion: 2:3:: 2^2: x
    a. 2^3 b. 2^2 c. 3^2 d. 2× 3

    Ans: d

26. Golden ratio 1:1.6 forms a proportion with x:8 then the value of x is
    a. 5 b. 3 c. 2 d. 1

    Ans: a

27. If a/10 = b/15 = c/20 then a:b:c is
    a. 1:2:3 b. 2:3:4 c. 3:4:5 d. 4:5:6

    Ans: b

28. If $x^2 + 4y^2 = 4xy$, then x:y is
    a. 2:1 b. 1:2 c. 1:1 d. 1:4

    Ans: a

1. Two numbers are in the ratio 3:5. If 9 be subtracted from each, then they are in the ratio 12:23. Find the second number.
    a. 52 b. 53 c. 54 d. 55

    Ans: d

2. Two numbers are in the ratio 17:45. One third of the smaller is less than 1/5 of the bigger by 15. The smaller number is
   a. 9/2 b. $76\frac{1}{2}$ c. $17\frac{1}{2}$ d. $45\frac{1}{2}$

   Ans: b

3. Sum of squares of three positive numbers is 608 and they are in the ratio 2:3:5. Then, find the numbers.
   a. 6, 9, 15 b. 8, 12, 20 c. 10, 15, 25 d. 14, 21, 35

   Ans: b

4. In a mixture of 60litres, the ratio of milk and water is 2:1. If this ratio is to be 1:2, then what is the quantity of water to be further added?
   a. 20 litres b. 30 litres c. 50 litres d. 60 litres

   Ans: d

5. 20 litres of a mixture contains milk and water in the ratio 5:3. If 4 litres of this mixture are replaced by 4litres of milk, the ratio of milk to water in the new mixture will become
   a. 2:1 b. 7:3 c. 8:3 d. 4:3

   Ans: b

6. Three partners shared the profit in a business in the ratio 5:7:8. They had partnered for 14months, 8months and 7months respectively. What was the ratio of their investments?
   a. 5:7:8 b. 28:49:64 c. 38:28:21 d. 20:35:64

   Ans: d

7. The monthly income of two persons are in the ratio 4:7 and their monthly expenditure are in the ratio 5:9. If each saves Rs.75 per month, then their monthly income is
   a. Rs.300, Rs.400 b. Rs.400, Rs.500 c. Rs.1200, Rs.2100 d. Rs.1400, Rs.2600

   Ans: c

8. Salaries of A, B and C are in the ratio 1:2:3. Salary of B and C together is Rs.3000. By what percent is salary of C more than that of A?
   a. 50 b. 100 c. 200 d. 300

Ans: c

9. Rs.1870 are divided among A, B, C such that A gets 2/3 of what B gets and B gets ¼ of what C gets. Then B's share is
   a. Rs.210 b. Rs240 c. Rs.330 D. Rs.360

   Ans: c

10. If Rs.782 be divided into three parts, proportional to $\frac{1}{2} : \frac{2}{3} : \frac{3}{4}$, then the first part is
   a. Rs.182 b. Rs.190 c. Rs.196 d. Rs.204

   Ans: d

11. Gold is 19times as heavy as water and copper is 9 times as heavy as water. In what ratio should these be mixed to get an alloy 15 times as heavy as water?
   a. 1:1 b. 2:3 c. 1:2 d. 3:2

   Ans: d (repeated)

12. Which one of the following is the smallest ratio? 7:13, 17:25, 7:15, 15:23
   a. 7:13 b. 17:25 c. 7:15 d. 15:23

   Ans: c

13. If 30% of A = 0.25 of B = 1/5 of C, then find the ratio A:B:C.
   a. 15:12:10 b. 12:15:10 c. 10:12:15 d. 10:15:12

   Ans: c

14. What is the third proportional to 0.34 and 0.50?
   a. 0.74 b. 0.75 c. 0.76 d. 0.77

   Ans: a

15. The sub triplicate ratio of 64:729 is
   a. 8:27 b. 4:9 c. 27:8 d. 9:4

   Ans: b

16. If $27x^3 - 64y^3 = 108x^2y - 144xy^2$ then x:y is
   a. 27:64 b. 108:144 c. 4:3 d. 3:4

   Ans: c

17. If 0.75:x = 5:8 then x is
   a. 1.12 b 1.20 c. 1.25 d. 1.30

   Ans: b

1. An amount of Rs.9000 is to be divided among A,B and C in the proportion of 2:3:5. Then the amount C gets more than that of A is
   a. Rs.2000 b. Rs.3000 c. Rs.2500 d. Rs.2700

   Ans: d

2. A mixture contains alcohol and water in the ratio 4:3. If 7 litres of water is added to the mixture the ratio of alcohol and water becomes 3:4 then the quantity of alcohol in the mixture is
   a. 15 b. 13 c. 14 d. 12

   Ans: d

3. A mixture contains alcohol and water in the ratio 4:3. If 5 litres of water is added to the mixture, the ratio becomes 4:5. Find the quantity of alcohol in the given mixture.
   a. 8 litres b. 10 litres c. 12 litres d. none of these

Ans: b

4. If the ratio of the ages of son and father in 2014 and 2022 are 1:4 and 3:8 respectively, then the sum of the ages of son and father in 2010 is
   a. 42 b. 43 c. 50 d. 45

   Ans: a

5. The boys and girls are in the ratio 3:2. If 10% of the boys and 25% of the girls are brilliant, the percentage of students not brilliant is
   a. 80% b. 84% c. 72% d. 60%

   Ans: b

6. At an election involving two candidates, 68votes are invalid. The winning candidate secures 52% and wins by 98 votes. The total number of votes is
   a. 2382 b. 2450 c. 2518 d. 2550

   Ans: c

7. A bag contains 50p, 25p and 10p coins in the ratio 5:9:4 amounting to Rs.206. Find the number of coins of each type in that order.
   a. 200, 360, 160 b. 360, 160, 200 c. 160, 200, 360 d. 100, 210, 320

   Ans: a

8. A bag contains coins of Rs.5, Rs.2 and Rs.1 in the ratio 3:7:4 amounting to Rs.1980. Find the number of coins of each type.

a. 180, 420, 240 b. 120, 180, 240 c. 420, 240, 180 d. 240, 180, 360

Ans: a

9. Salaries of Ravish and Sumita are in the ratio 2:3. If the salary of each is increased by Rs.4000, the new ratio becomes 40:57. What is Sumita's present salary?
   a. Rs.32,000 b. Rs.34,000 c. Rs.38,000 d. Rs.40,000

   Ans: c

10. The ratio of the prices of two cows was 23:16. Two years later the price of the first cow rises by Rs.477 and that of the second by 10% and the ratio of their prices became 20:11. Find the original prices
    a. Rs.1219 , Rs.848 b. Rs.1218, Rs.848 c. Rs.1210, Rs.850 d. Rs.1219, Rs.840

    Ans: a

11. A horse and two cows together cost Rs.680. If a horse cost Rs.80 more than a cow then the ratio of cost of horse and cow is
    a. 7:5 b. 5:7 c. 8:9 d. 9:8

    Ans: a

12. An alloy contains copper and zinc in the ratio 5:4 and another alloy contains copper and tin in the ratio 8:5. If equal amount of both the alloys are melted together, find the weight of tin in the resulting alloy per Kg.
    a. 192.3 b. 173.8 c. 186.5 d. 187.8

    Ans: a

13. In a factory, the ratio of male workers to female workers was 5:3. If the number of female workers is less by 40, what was the total number of workers in the factory?
    a. 100 b. 320 c. 160 d. 180

    Ans: c

14. In a box of 240 machine parts 15% were defective and in the 2nd box of 200 machine parts 4% were defective. In the 2boxes combined, find the percentage of defective items.
    a. 10% b. 12% c. 11% d. 9%

    Ans: a

15. A, B, C play cricket. The runs scored by A and B, B and C are in the same ratio 3:2. If A, B, C together scored 342 runs, then the runs scored by A, B, C respectively are

a. 162, 108, 72 b. 192, 90, 60 c. 162, 72, 108 d. 160, 108, 74

Ans: a

16. DCBA have a certain sum of money each in the ratio 3:3:5:7 respectively. Suppose D gives 10% of what he has to C and B gives 10% of what he has to A. Then find the new ratio of DCBA.
a. 9:11:15:25 b. 11:12:10:14 c. 10:10:12:13 d. 9:12:13:14

Ans: a

17. Divide Rs.2600 among A,B,C in the ratio ½: 1/3: ¼
a. Rs.1200, Rs.600, Rs.800
b. Rs.800, Rs.1200, Rs.600
c. Rs.600, Rs.800, Rs.1200
d. Rs.1200, Rs.800, Rs.600

Ans: d

18. A sum of Rs.1300 is divided amongst P, Q, R and S such that
$\frac{P'sshare}{Q's\ share} = \frac{Q'sshare}{R's\ share} = \frac{R'sshare}{S's\ share} = \frac{2}{3}$
Then P's share is
a. Rs.140 b. Rs.160 c. Rs.240 d. Rs.320

Ans: b

19. The square ratio of 3:4 is
a. 3:2 b. 4:3 c. 9:16 d. None of these

Ans: c

20. The cube root (sub triplicate) ratio of 8:27 is
a. 27:8 b. 24:81 c. 2:3 d. none of these

Ans: c

21. If A:B = 1/3:4/9 , B:C = 5/6:7/12, C:D = 2/7:5/14 then A:B:C:D is
a. 40:28:35:30 b. 30:40:28:35 c. 28:30:40:35 d. 35:30:28:40

Ans: b

22. If A:B = 2:3 and B:C = 4:5 then C:A is equal to
a. 15:8 b. 12:10 c. 8:5 d. 8:15

Ans: a

23. If x:y = 5:7, 7x – 3y/14x + 5y = ?

a. 2/15 b. 1/7 c. 7/3 d. 5/7

Ans: a

24. A:B = 5:8; B:C = 24:30 then A:B:C
    a. 5:24:30 b. 15:24:30 c. 8:24:30 d. 5:8:30

    Ans: b

25. If x:y = 2:1 then $(x^2 - y^2)$: $(x^2 + y^2)$ is
    a. 3:5 b. 5:3 c. 1:3 d. 3:1

    Ans: a

26. If 0.35:x :: 100:0.2 than x is
    a. 7 b. 0.7 c. 0.007 d. 0.0007

    Ans: d

27. If (3x + 2y): (3x – 2y) = 5:2. Then x:y is
    a. 5:2 b. 14:9 c. 9:14 d. 2:5

    Ans: b

28. Which is largest in 28%, 2.8%, 2/9 and 0.25?
    a. 28% b. 2.8% c. 2/9 d. 0.25

    Ans: a

29. The ascending order of the fraction is ½, 13/15, 2/3, 3/8
    Ans: ½, 3/8, 2/3, 13/15

Simple and Compound Interest

1. What sum of money will amount to Rs.2,704 in 2years at 4% Compound interest?
   a. Rs.2000 b. Rs.2200 c. Rs.2500 d. Rs.1800

   Ans: c

2. The C.I on a sum of money for 2years at 10% is Rs.168. Find the simple interest.
   a. Rs.150 b. Rs.158 c. Rs.160 d. Rs.164

   Ans: c

3. In how many years will a sum of Rs.1,000 becomes Rs.1,331 at 10% per annum compounded annually?
   a. 3 yrs b. 2 yrs c. 4 yrs d. 5 yrs

   Ans: a

4. A sum of money at simple interest amounts to Rs.815 in 3years and to Rs.854 in 4 years. Find the sum.
   a. Rs.650 b. Rs.690 c. Rs.698 d. Rs.700

   Ans: c (repeated)

5. What will be the simple interest earned on an amount of Rs.16,800 in 9 months at the rate of $6\frac{1}{4}$% p.a?
   a. Rs.697.75 b. Rs.787.50 c. Rs.567.30 d. Rs.897.60

   Ans: b

6. What will be the compound interest on a sum of Rs.25,000 after 3 years at the rate 12p.c per annum?
   a. Rs.20,000 b. Rs.12,800.20 c. Rs.10,123.20 d. Rs.10,000

   Ans: c

7. At what rate of compound interest per annum will a sum of Rs.1,200 become Rs.1348.32 in 2 years
   a. 6% b. 6.5% c. 7% d. 7.5%

   Ans: a (repeated)

8. The simple interest on Rs.7,500 at 6% per annum for 8years is
   a. Rs.4,200 b. Rs.3,600 c. Rs.2,800 d. Rs.3,400

   Ans: b

9. Find the simple interest on Rs.8000 at 7% per annum for 1year 6 months.
   a. Rs.730 b. Rs.800 c. Rs.840 d. Rs.715

   Ans: c

10. Find the simple interest on Rs.1000 from April9, 2010 to June 9, 2010 at $7\frac{1}{2}$% per annum.
   a. Rs.12.74 b. Rs.12.50 c. Rs.13.07 d. Rs.13.50

   Ans: a

11. A bank gives 6% SI on deposits. Find the amount to be deposited to earn an interest of Rs.45 in one year.
    a. Rs.450 b. Rs.750 c. Rs.1000 d. Rs.800

    Ans: b

12. Find the rate of interest at which, a sum of money becomes 9/4 times in 2years.
    a. $69\frac{1}{2}\%$ b. $67\frac{1}{2}\%$ c. $62\frac{1}{2}\%$ d. $61\frac{1}{2}\%$

    Ans: c

13. Simple interest on Rs.1000 at 10% for 2years is
    a. Rs.1000 b. Rs.200 c. Rs.100 d. Rs.2000

    Ans: b

14. Find the rate percent at which a sum of money becomes 7/6 times in 3 years?
    a. 12% b. $5\frac{5}{9}$ % c. $6\frac{5}{9}$ % d. 24%

    Ans: b

15. In how many years will a sum of money double itself at 12% per annum?
    a. 4 years 2 months b. 5 years 6 months c. 8 years 4 months d. 9 years 2 months

    Ans: c (repeated)

16. How much time will it take for an amount Rs.2,000 to double at a simple interest rate 8%?
    a. 25.5 years b. 10.5 years c. 8.5 years d. 12.5 years

    Ans: d

17. A sum of money triples itself at 8% per annum over a certain time. Find the no. of years
    a. 25 years b. 20 years c. 30 years d. 15 years

    Ans: a

18. The difference in compound interest and simple interest on a certain amount at 10% per annum at the end of the third year is Rs.930. The principal amount is
    a. Rs.20,000 b. Rs.25,000 c. Rs.30,000 d. Rs.30,500

    Ans: c

19. The difference between compound interest and simple interest on an amount of Rs.15,000 for 2 years is Rs.96, then the rate of interest per annum is

a. 12 b. 8 c. 6 d. 10

Ans: b

20. If the difference between simple interest and compound interest on a certain sum for 3 years at 10% per annum is Rs.31, find the sum.
    a. Rs.3,000 b. Rs.3,100 c. Rs.1,000 d. Rs.2,000

    Ans: c

21. Find the difference between simple interest and compound interest for a sum of Rs.8000 lent at 10% p.a in 2years
    a. 90 b. 100 c. 80 d. 70

    Ans: c

22. The difference between simple and compound interest for a sum of Rs. 12,00 lent at 10% per annum in 2years is,
    a. Rs.80 b. Rs.90 c. Rs.120 d. Rs.100

    Ans: c

23. What will be the difference between simple and compound interest at 10% per annum on a sum of Rs.1000 after 4years?
    a. Rs.32.10 b. Rs.64.10 c. Rs.65.20 d. Rs.66.45

    Ans: b

24. The difference between simple interest and compound interest for two years on a sum of money lent at 4% is Rs.4.80. Find the sum.
    a. Rs.120 b. Rs.3000 c. Rs.3010 d. Rs.768

    Ans: b

25. A sum of Rs. 1,550 was lent partly at 5% and partly at 8% per annum at simple interest. The total interest received after 3 years was Rs.300. The ratio of the money lent at 5% to that lent at 8% is
    a. 5:8 b. 8:5 c. 16:15 d. 31:6

    Ans: c

26. A sum of Rs.800 amounts to Rs.920 in 3years at a simple interest. If the interest rate is increased by 3%. What would Rs.800 amount to?
    a. 950 b. 970 c. 992 d. 1000

    Ans: c

27. If A lends Rs.3,500 to B at 10% per annum in simple interest, and B lends the same to C at 11.5% per annum in simple interest, then find the gain of B in a period of 3years.
    a. Rs.154.50 b. Rs.155.50 c. Rs.156.50 d. Rs.157.50

    Ans: d

28. A person invests a total of Rs.2,600 in three different investment plans which gives the return at 4%, 6% and 8% simple interest. At the end of a year, if the interest got in all the three plans are the same the money he invested in the first plan (which gives 4% interest) is
    a. Rs.200 b. Rs.600 c. Rs.800 d. Rs.1200

    Ans: d

1. If the rate of simple interest is 12% per annum, find the amount that would get interest of Rs.6000 per annum.
    a. Rs.82,000 b. Rs.50,000 c. Rs.72000 d. Rs.45,000

    Ans: b

2. The sum that will give Rs.1 as simple interest per day at 5% per annum is
    a. Rs.3650 b. Rs.36,500 c. Rs.730 d Rs.7300

    Ans: d

3. Find the principal that yield a compound interest of Rs.1632 in 2years at 4% rate of interest per annum.
    a. Rs.10000 b. Rs.20000 c. Rs.30000 d. Rs.40000

    Ans: b

4. The present worth of Rs.242 due in 2years at 10% per annum compound interest is
    a. Rs.200 b. Rs.225 c.Rs.260 d.Rs.190

    Ans: a

5. The compound interest on Rs.30000 at 7% per annum for certain period is Rs.4347. The period is
    a. 4 years b. 3 years c. 2.5 years d. 2 years

    Ans: d

6. In what time will Rs.1000 become Rs.1331 at 10% per annum compounded annually?
   a. -2 b. 3 c. 4 d. none of these

   Ans: b

7. At what rate of compound interest per annum will a sum of Rs.1200 become Rs.1348.32 in 2years?
   a. 6.5% b. 7% c. 8% d. 6%

   Ans: d

8. A certain sum amounts to Rs.800 in 3years and Rs.840 in 4years in compound interest. The rate of interest per annum is
   a. $2\frac{1}{2}\%$ b. 4% c. 5% d. 6%

   Ans: c

9. Alex invested an amount of Rs.8000 in a fixed deposit scheme for 2years at compound interest rate 5% per annum. How much amount will Alex get on maturity of the fixed deposit?
   a. Rs.8600 b. Rs.8620 c. Rs.8820 d. Rs.8840

   Ans: c

10. The difference between the compound interest and simple interest on a certain sum at 8% per annum for 2years is Rs.240. Find the sum
    a. Rs.35,000 b. Rs.35,700 c. Rs.37,500 d. Rs.40,000

    Ans: c

11. The difference between simple interest and compound interest on Rs.500 for 1year at 12.5% per annum is
    a. Rs.15 b. Rs.15.50 c. Rs.50 d. Rs.0

    Ans: d

12. The difference between the compound and the simple interest occurred as an amount of Rs.18000 in 2 years was Rs.405. What was the rate of interest per annum?
    a. 10% b. 12% c. 15% d. 9%

    Ans: c

13. The difference between simple and compound interest for a sum of Rs.5000 lent at 12% per annum in 2yrs is

a. Rs.720 b. Rs.12 c. Rs.72 d. Rs.700

Ans: c

14. A sum at compound interest doubles itself in 15years. In how much years will it become 8 times?
    a. 20 b. 25 c. 35 d. 45

    Ans: d

15. A sum of money becomes 27times in 45years at compound interest. In how many years it becomes 9times?
    a. 10yrs b. 15yrs c. 30yrs d. 25yrs

    Ans: c

16. A sum of money doubles itself at $6\frac{1}{4}\%$ per annum over a certain time. Find the number of years.
    a. 16 b. 14 c. 20 d. none of these

    Ans: a

17. A certain sum of money lent out at simple interest basis amounts to Rs.660 in 3years and Rs.720 in 5years. The sum lent is
    a. Rs.570 b. Rs.600 c. Rs.540 d. Rs.525

    Ans: a

18. At simple interest Rs.1000 becomes Rs.1150 in 3years. If the interest rate is increased by 3% then the total amount is
    a. Rs.1400 b. Rs.1300 c. Rs.1140 d. Rs.1240

    Ans: d

19. A debt of Rs.1640 due in 2years at the rate of 5%. Compound interest is paid in two equal annual installments. Find the installment amount?
    a. Rs.810 b. Rs.882 c. Rs.1000 d. Rs.820

    Ans: b

20. If Ram needs Rs.6,00,000 after 10years how much should he invest now in a bank of the bank pays 20% interest per annum?
    a. Rs.2,50,000 b. Rs.3,00,000 c. Rs.2,00,000 d. Rs.4,00,000

    Ans: c

21. Imran deposits Rs.400 per month in a post office as R.D for 2years. If the rate of interest is 12% find the amount he will receive at the end of 2years.
    a. Rs.12,800 b. Rs.10,000 c. Rs.12,000 d. Rs.10,800

    Ans: d

1. How long will it take a sum of money invested at 12.5% p.a SI to increase its value by 50%?
    a. 5yrs b. 3yrs c. 2yrs d. 4yrs

Ans: d

2. The compound interest on Rs.30,000 at 7% per annum is Rs.4347. The period in years is
    a. 2 b. 2.5 c. 3 d. 4

    Ans: a

3. If the C.I on a certain sum for 3years at 10% per annum be Rs.331. What would be the simple interest?
    a. Rs.3000 b. Rs.300 c. Rs.30 d. Rs.30000

    Ans: b

4. A sum of money at compound interest amounts to Rs.672 in 2years and 714 in 3years. The rate of interest is
    a. 5% b. 3.5% c. $6\frac{1}{4}\%$ d. 7.5%

    Ans: c

5. A sum of money amounts to Rs.8,400 in 5years and to Rs.9360 in 7years at simple interest. Find the sum and the rate of interest.
    a. 5000, 7% b. 8000, 8% c. 6000, 9% d. 6000, 8%

    Ans: d

6. If the simple interest for an amount at 4% per annum for 3years is Rs.1200. Find the compound interest at the same rate for the same amount for 2years.
    a. Rs.10,116 b. Rs.10,720 c. Rs.10,616 d. Rs.816

    Ans: d

7. A sum of money doubles itself in 20years in simple interest. Then the rate of interest per annum is
    a. 5% b. 4% c. 5.5% d. 4.5%

Ans: a

8. A sum of money doubles itself at compound interest in 10years. The number of years in which the amount becomes four times is
   a. 10 b. 40 c. 20 d. 30

   Ans: c

9. The rate at which a sum doubles in 7years at simple interest is
   a. $14\frac{2}{7}\%$ b. 15% c. 16% d. 19%

   Ans: a

10. In how many years will a sum be thrice of itself at the rate of 10% per annum?
    a. 10 b. 15 c. 20 d. 25

    Ans: c

11. The difference between simple interest and compound interest for 2 years at 5% is Rs.225. Find the sum.
    a. Rs.45000 b. Rs.90000 c. Rs.95000 d. Rs.80000

    Ans: b

12. The difference between compound interest and the simple interest on Rs.1250 for 2years at 8% is
    a. Rs.2 b. Rs.4 c. Rs.6 d. Rs.8

    Ans: d

13. The difference between the compound interest and the simple interest on a certain sum at 10% per annum for 2years is Rs.52. The principal amount is
    a. Rs.5200 b. Rs.2500 c. Rs.5000 d. Rs.5100

    Ans: a

14. The difference between simple and compound interest compounded annually on a certain sum of money in 2years at 4% per annum is Rs.1. The sum (in Rs) is
    a. Rs.625 b. Rs.630 c. Rs.640 d. Rs.650

    Ans: a

15. The difference between the simple interest received from 2 different banks on Rs.2000 for 3years is Rs.12.50. The difference between their rate of interest is
    a. $\frac{3}{10}\%$ b. $\frac{2}{5}\%$ c. $\frac{5}{24}\%$ d. $\frac{7}{10}\%$

    Ans: c

16. Find the amount of Rs.1400 invested at SI 14% during the period from 5th Feb 1994 to 19th April 1994
    a. Rs.1539 b. Rs.1437 c. Rs.1439.20 d. Rs.1469.20

    Ans: c

17. A sum was put at simple interest at certain rate for 2years. Had it been put at 3% higher rate it would have fetched Rs.72 more. The sum is
    a. Rs.1200 b. Rs.1500 c.Rs.1600 d. Rs.1800

    Ans: a

18. A certain sum of money lent out at simple interest amounts to Rs.690 in 3yrs and Rs.750 in 5yrs. The sum lent is
    a. Rs.400 b. Rs.450 c. Rs.500 d. Rs.600

    Ans: d

19. At simple interest Rs.1000 becomes Rs.1150 in 3years. If the interest rate is increased by 3% then the total amount is
    a. 1400 b. 1300 c. 1140 d. 1240

    Ans: d

20. Malini deposited Rs.7000 with a finance company for 3years at an interest of 15% per annum. What is the compound interest and the amount that Malini will get after 3years?
    a. C.I – Rs.3246, amount – Rs.13,246
    b. C.I – Rs.3646, amount – Rs.10,646
    c. C.I – Rs.6436, amount – Rs.16,046
    d. C.I – Rs.4636, amount – Rs.14,636

    Ans: b

21. Some amount of Rs.7000 was lent at 6% per annum and the remaining was lent at 4%. If the total simple interest in 5yrs is Rs.1600, find the sum lent out at 6%.
    a. 6000 b. 5000 c. 4000 d. 2000

    Ans: d

22. A man borrows Rs.800 at 4% interest per annum and Rs.700 at 5% interest per annum for the same period. If he pays a sum of Rs.268 as total interest then the time for which he borrowed the sum is
    a. 2 years b. 3 years c. 4 years d. 5 years

    Ans: c

Area, Volume

Example Problems

1. How many cubes of 3cm edge can be cut out of a cube of 18cm edge?
   a. 36 b. 216 c. 218 d. 432

   Ans: b

2. Find the volume of a sphere of radius 10.5cm
   a. 1386 cm^3 b. 4851 cm^3 c. 3651 cm^3 d. 2456 cm^3

   Ans: b

3. The metallic sphere of radius 12cm is melted into three smaller spheres. If the radii of two smaller spheres are 6cm and 8cm, the radius of the third sphere is
   a. 14 cm b. 16 cm c. 10 cm d. 12 cm

   Ans: c

4. For what value of radius of a sphere, the volume of the sphere is numerically equal to the surface area of the sphere
   a. 1 b. 2 c. 3 d. 4

Ans: c

5. What is the least number of square marbles required for a terrace of 15.17 m long and 9.02m breadth?
   a. 1242 b. 407 c. 814 d. 1000

   Ans: c

6. The capacity of a cylindrical tank is 246.4 liters. If the height is 4 meters, what is the diameter of the base?
   a. 1.4m b. 2.8m c. 0.14m d. 0.28m

   Ans: d

7. If the side of an equilateral triangle is decreased by 20% its area is decreased by
   a. 42% b. 36% c. 34% d. 20%

   Ans: b

8. The area of a circle is 220cm^2, then the area of the square inscribed in the circle is
   a. 120 cm^2 b. 140 cm^2 c. 135 cm^2 d. 250 cm^2

   Ans: b

9. If the radius of a circle is doubled, area is multiplied by
   a. 3 b. 2 c. 4 d. 8

   Ans: c

10. A square is inscribed in a circle whose radius is 4cm. The area of the portion between the circle and the square is
    a. $16\pi - 32cm^2$ b. $32\pi - 27cm^2$ c. $20\pi + 11cm^2 d. 12\pi - 4cm^2$

    Ans: a

11. If length and breadth of a rectangle became half and double respectively, then what will be the % increase in resultant area?
    a. 0% b. 55% c. 75% d. 80%

    Ans: a

12. One side of a rectangular field is 15m and one of its diagonals is 17m, then the area of its field is
    a. 32 m^2 b. 120 m^2 c. 2 m^2 d. 60 m^2

    Ans: b

13. The perimeter of one face of a cube is 20cm. Its volume must be

a. 215 cm^3 b. 200 cm^3 c. 125 cm3 d. 8000 cm^3

Ans: c

14. What is the volume of a cube whose diagonal measure is $4\sqrt{3}$ cm
a. 30 cm^3 b. 46 cm^3 c. 60 cm^3 d. 64 cm^3

Ans: d

15. How many cubes of 10cm edge can be put in a cubical box of 1m edge?
a. 200 b. 1000 c. 10 d. 100

Ans: b

16. How many cubes of 3cm edge can be cut out of a cuboid of $3cm \times 18cm \times 108cm$?
a. 216 b. 326 c. 36 d. 45

Ans: a

17. The capacity of a tank of dimension $(8\,m \times 6m \times 2.5m)$ is
a. 120000 liter b. 100000 liter c. 50000 liter d. 80000 liter

Ans: a

18. The ratio of the radii of two cylinders is 2:3 and the ratio of their heights is 5:3. The ratio of their volumes will be
a. 4:9 b. 9:4 c. 20:27 d. 27:20

Ans: c

19. One side of a parallelogram is 18cm and its distance from the opposite side is 8cm. The area of the parallelogram is
a. 160 cm^2 b. 230 cm^2 c. 144 cm^2 d. 140 cm^2

Ans: c

20. A square and a rectangle have equal areas. If their perimeters are P_1 and P_2 respectively then
a. $P_1 \leq P_2$ b. $P_1 = P_2$ c. $P_1 > P_2$ d. $P_1 \geq P_2$

Ans: a

21. Find the length of the altitude of an equilateral triangle of side $3\sqrt{3}$ cm
a. 27 cm b. $9\sqrt{3}$ cm c. 9 cm d. 4.5 cm

Ans: d

22. The length of a rectangle in increased by 60%. By what percent would the width have to be decreased so as to maintain the same area
    a. 37.5% b. 60% c. 75% d. 120%

    Ans: a

23. A cone, a hemisphere and a cylinder stand on equal bases and have the same height. Find the ratio of their volumes.
    a. 3:2:1 b. 1:2:3 c. 3:1:2 d. 1:3:2

    Ans: b

24. As air is pumped into a spherical balloon the radius increases from 6cm to 12cm. The ratio between volume of the balloon in the beginning and the end is
    a. 1:8 b. 2:7 c. 8:1 d. 2:3

    Ans: a

25. The difference between two parallel sides of a trapezium is 4cm. The perpendicular distance between them is 19cm. If the area of the trapezium is 475 cm^2, find the length of the parallel sides
    a. 20 cm and 16 cm b. 27 cm and 23 cm c. 27 cm and 20 cm d. 25 cm and 23 cm

    Ans: b

26. The perimeters of two squares are 40cm and 32cm. Find the perimeter of a third square whose area is equal to the difference of the areas of the two squares
    a. 40 cm b. 36 cm c. 12 cm d. 24 cm

    Ans: d

27. A river of 1.5m deep and 36m wide is flowing at the rate of 3.5km per hour. The amount of water that runs into the sea per minute is
    a. 3150 m^3 b. 31500 m^3 c. 6300 m^3 d. 63000 m^3

    Ans: a

28. The total surface area of a solid hemisphere of a diameter 2 cm is equal to
    a. 12 cm^2 b. 12π cm^2 c. 4π cm^2 d. 3π cm^2

    Ans: d

29. The radius and height of cylinder and cone are equal. If the volume of cylinder is 120 cm^3, then the volume of cone is
    a. 90 cm^3 b. 40 cm^3 c. 30 cm^3 d. 100 cm^3

Ans: b

30. The radii of two cones are in the ratio 2:1, their volumes are equal. Find the ratio of their heights.
    a. 1:8 b. 1:4 c. 2:1 d. 4:1

    Ans: b

31. A rectangular piece of paper has length 14π cm and breadth $\frac{10}{\pi}$ cm. A cylinder is formed by one rolling of the paper along its length. Then volume of the cylinder is
    a. 980 cc b. 1960 cc c. 1400 cc d. 490 cc

    Ans: d

32. 50 circular plates each of radius 7cm and thickness ½ cm are placed one above another to form a solid right circular cylinder. What is the total surface area of the cylinder so formed?
    a. 1230 cm^2 b. 1332 cm^2 c. 1408 cm^2 d. 1560 cm^2

    Ans: c

33. A drain cover is made from a square metal plate of side 40cm having 70 circular holes of diameter 1 cm each drilled in it. Find the area of the cover.
    a. 1380 cm^2 b. 1545 cm^2 c. 1655 cm^2 d. 1820 cm^2

    Ans: b

34. The inner and outer surface area of a hemispherical dome of a building needs to be painted. If the thickness of the dome is 5cm and the inner circumference of the base is 17.6cm, find the cost of painting it at the rate of Rs. 5 per sq.m
    a. Rs. 480.2 b. Rs. 501.7 c. Rs. 255.3 d. Rs. 246.4

    Ans: b

35. A flower garden is in the shape of a rhombus. The length of its diagonals are 18m and 25m. Find the area of the flower garden.
    a. 25 m^2 b. 18 m^2 c. 225 m^2 d. 450 m^2

    Ans: c

36. A hollow sphere in which a circus motor cyclist performs his stunts, has an area of 154m^2 available to him for riding. Find the inner radius.
    a. 7 m b. 3.5 m c. 4 m d. 6m

    Ans: b

37. Find the cost of filling a pit of dimensions $5m \times 4m \times 2m$ with soil if the rate of filling is Rs.270 per cubic metre.
a. Rs. 10,800 b. Rs. 1,080 c. Rs. 10,080 d. Rs. 18,000

Ans: a

38. If the area and arc length of the sector of a circle are 60 square meter and 20 meter respectively, then find the diameter of the circle
a. 6 meter b. 12 meter c. 24 meter d. 36 meter

Ans: b

39. The total surface area of a cube is 384 cm^2, then its volume is
a. 521 cm^3 b. 512 cm^3 c. 412 cm^3 d. 421 cm^3

Ans: b

40. If the height and the base of a right circular cone are 5cm and 48sq.cm respectively, then the volume of the cone is equal to
a. 240 cm^3 b. 120 cm^3 c. 80 cm^3 d. 480 cm^3

Ans: c

41. Find the area of a right angled triangle whose base is 12cm and hypotenuse 13cm.
a. 30cm^2 b. 40cm^2 c. 50cm^2 d. 35cm^2

Ans: a

42. Find the length of a chord which is at a distance of 15cm from the center of a circle of radius 25cm.
a. 45 cm b. 40 cm c. 42 cm d.50 cm

Ans: b

43. Three angles of a triangle are$3x + 5^\circ$,$x + 20^\circ$and$x + 25^\circ$, find x.
a. 26 b. 28 c. 30 d. 24

Ans: a

44. Area of the triangle whose vertices are (0,0), (2,0) and (0,2)
a. 1 sq. Units b. 2 sq. Units c. 4 sq. Units d. 8 sq. Units

Ans: b

45. A rectangular ground is 80m long and 60m broad. It has two cross roads of equal width one is parallel to length and the other parallel to breadth. If the area of these roads is 675 sq.m. Find the width of each road.

a. 3m b. 5m c. 7m d. 10m

Ans: b

46. If the radius of a sphere is half of the radius of another sphere, then their respective volumes are in the ratio is
a. 1:2 b. 2:1 c. 1:8 d. 8:1

Ans: c

47. If the capacity of a cylindrical tank is 1848 m^3 and the diameter of its base is 14m. Find the depth of the tank.
a. 10m b. 12m c. 14m d. 16m

Ans: b

48. A chess board contains 64 equal squares and area of each square is 6.25 sq.cm. A border around the board is 2cm wide. Then the length of the side of the chess board is
a. 20cm b. 22 cm c. 24cm d. 21 cm

Ans: c

49. Which of the following set of measurements will form a right angle triangle?
a. 6, 9, 12 b. 5, 8, 10 c. 5, 5, $5\sqrt{2}$ d. 3, 4, $4\sqrt{2}$

Ans: c

50. Three angles of a triangle are x-30°, x-45°, x+15°, find the value of x.
a. 60° b. 40° c. 80° d. *100°*

Ans: c

51. The base of a triangle is four times its height and its area is 50m^2. The length of the base is
a. 10m b. 15m c. 20m d. 25m

Ans: c

52. If the ratio of length and breadth of a rectangle is 4:7. Find the length while its breadth is 77cm.
a. 22cm b. 33cm c. 44cm d. 55cm

Ans: c

53. A room is 5m 40cm long and 4m 50cm broad. Its area is
a. 23.4m^2 b. 24.3m^2 c. 25m^2 d. 98.01m^2

Ans: b

54. The breadth, height and volume of a cuboid are 10cm, 11cm and 3080 cm^3 respectively. Find the length of the cuboid.
    a. 21cm b. 28cm c. 24cm d. 30cm

    Ans: b

55. The area of a triangle whose vertices are O(0,0), A(3,0), B(0,2) is
    a. 6 sq. Units b. 2 sq. Units c. 3 sq. Units d. 12 sq. Units

    Ans: c

56. The area of triangle whose vertices are (1,2) (-3,4) and (-5,-6) is
    a. 11 sq. Units b. 15 sq. Units c. 25 sq. Units d. 22 sq. Units

    Ans: d

57. If the radius of one sphere is half of the radius of another sphere, then the ratio of their volumes is
    a. 8:1 b. 1:9 c. 1:8 d. 1:7

    Ans: c

58. The radii of two cylinders are in the ratio 3:5 and their heights are in the ratio 2:3. Find the ratio of their curved surface area
    a. 2:5 b. 5:2 c. 2:3 d. 3:2

    Ans: a

59. The ratios of the respective heights and the respective radii of two cylinders are 1:2 and 2:1 respectively. Then their respective volumes are in the ratio
    a. 4:1 b. 1:4 c. 2:1 d. 1:2

    Ans: c

1. The ratio of area of 2 squares is 9:1 then the ratio of the perimeter is
    a. 9:1 b. 3:1 c. 4:1 d. 1:9

    Ans: b

2. In a cylinder, if radius is doubled and height is halved, then what happens to the curved surface area?
    a. Halved b. Doubled c. Does not change d. four times

    Ans: c

3. The length of side of a rhombus is 5m and one of its diagonal is 8m. Then what is the length of other diagonal?
   a. 5m b. 7m c. 6m d. 8m

   Ans: c

4. The length, breadth and height of a hall are 8m, 10m, 4m respectively and the hall has one door of area *3m x 1.5m*. Find the cost of painting the walls at the rate of Rs.200 per square meter.
   a. Rs.28,800 b. Rs.59,900 c. Rs.27,900 d. Rs.60,800

   Ans: c

5. If the capacity of a cylindrical tank is $1848m^3$ and the diameter of its base is 14m, then find the depth of the tank?
   a. 12m b. 14m c. 15m d. 18m

   Ans: a

6. The length of a chain used as the boundary of a semicircular park is 72m. What is the area of the park?
   a. $77m^2$ b. $91m^2$ c. $126m^2$ d. $308m^2$

   Ans: d

7. Find the percentage increase in the area of a triangle if its each side is doubled.
   a. 100% b. 200% c. 300% d. 400%

   Ans: c

8. Three solid metal cubes, whose edges are 6cm, 8cm and 10cm are melted and a new cue is made. Find the length of edge of the new cube.
   a. 12cm b. 24cm c. 20cm d. 48cm

   Ans: a

9. A plot of land is in the form of a quadrilateral where one of its diagonals is 100m long. If two vertices on either side of this diagonals are 50m away from the diagonal. Find the area of the plot of land.
   a. $5000\ m^2$ b. $1000\ m^2$ c. $10000\ m^2$ d. $500\ m^2$

   Ans: a

10. A heap of paddy is in the form of a right circular cone whose diameter is 4.8m and height 1.8m. If the heap is to be covered exactly by a canvas to protect it from rain, find the area of the canvas required?

a. 22.6 m^2 b. 27.2 m^2 c. 13.6 m^2 d. 11.3 m^2

Ans: a

11. A plot of land is in the form of a quadrilateral where one of its diagonals is 250m long. If two vertices on either side of this diagonals are 70m and 80m away from the diagonal. Find the area of the plot of land.
b. 18750 m^2 b. 20000 m^2 c. 30000 m^2 d. 40000 m^2

Ans: a

12. Two cubes each with 8centimeter edge are joined end to end. The surface area of the resulting cuboid is
a. 1440 cm^3 b. 830 cm^3 c. 640cm^3 d. 6400cm^3

Ans: c

13. How many iron rods each of length 14m and diameter 4cm can be made out of 0.44 cubic metres of iron?
a. 25 b. 14 c. 18 d. 20

Ans: a

14. A hollow cylindrical iron pipe is of length 35cm. Its outer and inner diameters are 10cm and 8cm respectively. Find the weight of the pipe if 1cu.cm of iron weighs 7gm.
a. 6.93 Kg b. 9.90Kg c. 7.53 Kg d. 7.93 Kg

Ans: a

15. If the length of a rectangle is decreased by 50% and the breadth is increased by 80%, then the % change in the area of rectangle is
a. Decreased by 10% b. Increased by 10% c. Decreased by 20% d. increased by 20%

Ans: a

16. A solid metallic cone of base radius 2.1cm and height 84cm is melted and recast into a sphere. The radius of the sphere is
a. 2.1cm b. 4.2cm c. 1.05cm d. 0.07cm

Ans: a

17. A rectangular sheet of size *220cm x 150cm* is rolled breadthwise to form a cylinder, volume of cylinder is
a. 577500 cm^3 b. 57500 cm^3 c. 50000 cm^3 d. 33000 cm^3

Ans: a

18. The cost of painting the four walls of a room is Rs.425. Each one of the length, breadth and height of another room is triple that of this room. The cost of painting the walls of this new room is
    a. Rs.1275 b. Rs.850 c. Rs.1700 d. Rs.3825

    Ans: d

19. How many bags of grain can be stored in a cuboid granary *12m× 6m× 5m*if each bag occupies a space of 0.96 cu.metre?
    a. 275 b. 375 c. 480 d. 495

    Ans: b

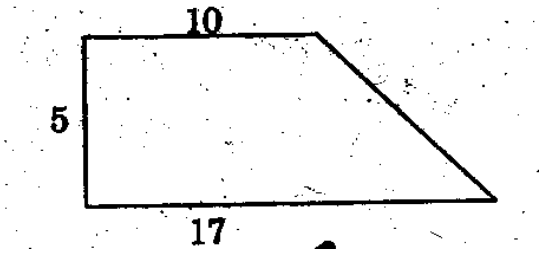
20. A rectangular plot measuring 90metres by 50metres is to be enclosed by wire fencing. If the poles of the fence are kept 5 metres apart, how many poles will be needed?
    a. 55 b. 56 c. 57 d. 59

    Ans: b

21. The perimeter of one face of a cube is 20cm. Find its volume
    a. $125cm^3$ b. $400\ cm^3$ c. $1000cm^3$ d. $8000cm^3$

    Ans: a

22. Find the area of the following figure



    a. 62.5 b. 67.0 c. 67.5 d. 65.7

    Ans: c

23. Two right circular cones have equal radii. If their slant heights are in the ratio 4:3, then their respective curved surface areas are in the ratio
    a. 16:9 b. 2:3 c. 4:3 d. 3:4

    Ans: c

24. Two cubes each of volume $216cm^3$ are joined to form a cuboid then the total surface area of the cuboid is

a. 180 sq.cm b. 360 sq.cm c. 90 sq.cm d. 45 sq.cm

Ans: b

25. Find the central angle of a sector of a circle having an area 352cm^2 and radius 12cm.
a. *280°* b. *290°* c. *300°* d. *270°*

Ans: a

26. A lawn is in the form of a rectangle having its sides in the ratio 1:3. The area of the lawn is 1/12 hectares. The length of the lawn is
a. 25 m b. 50/3 m c. 50m d. 150m

Ans: c

27. The sides of a rectangle plot are in the ratio 3:2 and its area is 6hectares. Find its perimeter.
a. 1000 m b. 2000m c. 500m d. 1250m

Ans: a

28. The length of a minute hand of a wall clock is 7cm. The area swept by it in 15minutes
a. 70cm^2 b. 105cm^2 c. 38.5cm^2 d. 100cm^2

Ans: c

29. The diagonals of a kite are of length 8cm and 10cm. Then its area is
a. 80cm^2 b. 40cm^2 c. 18cm^2 d. 9cm^2

Ans: b

30. The slant height of a conical mountain is 2.5Km and the area of its base is 1.54Sq.Km. How high is the mountain?
a. 2.2Km b. 2.4Km c. 3Km d. 3.11Km

Ans: b

31. A metallic cone of radius 12cm and height 24cm is melted and made into spheres of radius 2cm each. How many spheres are there?
a. 108 b. 120 c. 144 d. 180

Ans: a

32. The circumference of a circle is 88cm. the side of a largest square inscribed in the circle is

a. $7\sqrt{2}$ cm b. $14\sqrt{2}$ cm c. 21cm d. 7cm

Ans: b

33. The circumference of the base of a 12cm high wooden solid cone is 44cm. Find the volume.
a. 606cm^3 b. 610cm^3 c. 614cm^3 d. 616cm^3

Ans: d

34. A wheel makes 1000 revolutions in covering a distance of 88Km. the radius of the wheel is
a. 7m b. 14m d. 16m d. 21m

Ans: b

35. The area (in sq. units) of the largest possible square inscribed in a circle of radius 2units is
a. 4 b. 8 c. 2π d. 4π

Ans: b

36. Water flows through a cylindrical pipe of diameter 5mm at 10m per minute and falls into a conical vessel having 40cm as diameter of its base and 24cm as its height. In how much time is this vessel filled up?
a. 48min 15sec b. 51min 12sec c. 52min 1 sec d. 55min

Ans: b

37. The diameter of cylindrical vessel is 14cm. It contains some water. On immersing an iron sphere fully in it, water level increases by $9\frac{1}{3}$ cm. What is the radius of the sphere?
a. 7cm b. 3.5cm c. 9cm d. 12cm

Ans: a

1. The sides of a triangle are in the ratio ½:1/3: 1/4 and its perimeter is 100cm. Then the length of the longest side is
a. 46.15 cm b. 46.35 cm c. 46.83 cm d. 46 cm

Ans: a

2. The side of an equilateral triangle is 4cm. Then its altitude is
a. $2\sqrt{3}$ b. $4\sqrt{3}$ c. $8\sqrt{3}$ d. 4

Ans: a

3. The outer and the inner radii of a hollow sphere are 12cm and 10cm. Find its volume (in cm^3).
   a. $3050\frac{2}{3}$ b. $3049\frac{2}{3}$ c. $3060\frac{2}{3}$ d. $3059\frac{2}{3}$

   Ans: a

4. Find the volume of a solid cylinder whose radius is 14cm and height 30cm.
   a. 18380 cm^3 b. 18480 cm^3 c. 18580 cm^3 d. 18680 cm^3

   Ans: b

5. The sum of the interior angles of a hexagon is
   a. 360 degree b. 240 degree c. 720 degree d. 180 degree

   Ans: c

6. Find the volume of a largest sphere inscribed from the right circular cylindrical wood whose radius is 1cm and height is 5cm
   a. $\frac{4}{3}\pi cm^3$ b. $\frac{5}{16}\pi cm^3$ c. $5\pi cm^3$ d. $8\pi cm^3$

   Ans: a

7. The volume of a wall is 0.576 cu.cm. The height of the wall is six times its breadth and length of the wall is twice the height. Then breadth of the wall is
   a. 22cm b. 24cm c. 20cm d. 18cm

   Ans: c

8. Find the area of a parallelogram whose base is 9cm and the altitude (height) is 5cm.
   a. 44 cm^2 b. 40 cm^2 c. 45 cm^2 d. 24.5 cm^2

   Ans: c

9. Two cubes each of volume 216 cm^3 are joined to form a cuboid. The total surface area of the resulting cuboid is (in cm^2)
   a. 120 b. 360 c. 300 d. 240

   Ans: b

10. A courtyard 24m long and 15m broad is paved with bricks of dimensions 25cm and 12cm. The total number of bricks required is
    a. 8000 b. 10000 c. 12000 d. 16000

    Ans: c

11. A copper sphere of diameter 18cm is drawn into a wire of diameter 18cm. Then the length of the wire is
    a. 12cm b. 18cm c. 20cm d. 14cm

    Ans: a

12. A flower garden is in the shape of a rhombus. The length of its diagonals are 18m and 25m. Find the area of the flower garden.
    a. 450 m^2 b. 225 m^2 c. 324 m^2 d. 18 m^2

    Ans: b

13. A rectangular paper when folded into two congruent parts had a perimeter of 26 cm for each part folded along one set of sides and the same is 28cm when folded along the other set of sides. Then the area of the paper is
    a. 60 sq.cm b. 100 sq.cm c. 80 sq.cm d. 70 sq.cm

    Ans: c

14. If the side of a square is increased by 5cm, then the area increases by 165sq.cm. The side of the square is
    a. 13 cm b. 14 cm c. 33 cm d. 12 cm

    Ans: b

15. If a square and a rhombus stand on the same base, then the ratio of the area of the square and the rhombus is
    a. Greater than 1 b. equal to 1 c. equal to ½ d. equal to ¼

    Ans: b

16. Two cones have their volumes in the ratio 3:1 and their heights are in the ratio 1:3 then the ratio of their radius is
    a. 9:1 b. 27:1 c. 3:1 d. 1:3

    Ans: c

17. If the radius of a circle is decreased by 50%, find the % decrease in its area.
    a. 74% b. 75% c. 76% d. 95%

    Ans: b

18. The surface area of a solid hemisphere is 2772 sq.cm. Find its total surface area.
    a. 4158 b. 5544 c. 8316 d. 2772

    Ans: a

19. The heights of two circular cones are in the ratio 2:3 and the perimeter of their bases are 3:5. The ratio of their volumes is
    a. 2:5 b. 6:15 c. 6:25 d. 3:5

    Ans: c

20. Ravi wants to stitch a cover for his CPU whose length, breadth and height are 20cm, 45cm and 50cm respectively. The amount he has to pay if it costs Rs.50 per square meter is
    a. Rs.37 b. Rs.35 c. Rs.40 d. Rs.50

    Ans: a

21. The sides of a triangle are in the ratio ½:1/3:1/4 and its perimeter is 104cm. The length of the longest side is
    a. 52cm b. 48cm c. 32 cm d. 26cm

    Ans: b

22. The volume of a cube is 125 cu.cm. The surface are of the cube (in sq.cm) is
    a. 625 b. 125 c. 150 d. 100

    Ans: c

23. The surface area of a cube is 2400 sq.cm. Then its volume is
    a. 6000 cm^3 b. 8000 cm^3 c. 7200 cm^3 d. 9600 cm^3

    Ans: b

24. 12 spheres of the same size are made from melting a solid cylinder of 16 cm diameter and 2 m height then the diameter of each sphere is
    a. 1 cm b. 2 cm c. 3 cm d. 4 cm

    Ans: d

25. A rectangular carpet has an area of 60 sq.m. Its diagonal and longer side together equal 5 times the shorter side. The length of the carpet is
    a. 5 m b. 12 m c. 13 m d. 14.5 m

    Ans: b

26. The number of small cubes with edge 10cm that can be accommodated in a cubical box of edge 1m is
    a. 10 b. 100 c. 1000 d. 10000

    Ans: c

27. The diameter of a sphere is 6cm. It is melted and drawn into a wire of diameter 2mm. The length of the wire is
a. 12 m b. 18 m c. 36 m d. 66 m

Ans: c

28. A uniform circular path of width 4m is laid out around a circular park of radius 48m. Find the area of the circular path.
a. 1256 m^2 b. 1255 m^2 c. 400 m^2 d. 1254 m^2

Ans: a

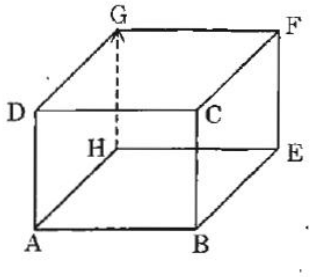
29. The capacity of a rectangular box is equal to the capacity of a cubic box. If the length, breadth and height of the rectangular box are respectively 16cm, 4cm and 1cm, then the length of a side of the cubic is equal to
a. 10 cm b. 8 cm c. 6 cm d. 4 cm

Ans: d

30. If the angles of a triangle are in the ratio 1:3:5. Then the angles are
a. 20deg, 100deg, 60deg b. 20deg, 60deg, 100deg c. 30deg, 60deg, 90deg

Ans: b

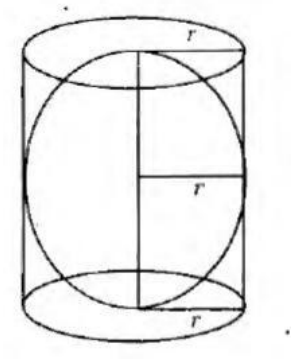
31. If the volume of the cube ABCDEFGH is 64 cu.cm. What is the shortest distance from D to E?



a. $4\sqrt{2}$ b. $4\sqrt{3}$ c. $4\sqrt{6}$ d. $8\sqrt{2}$

Ans: b

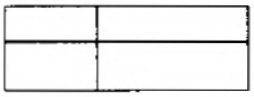
32. A sphere is placed inside a right circular hollow cylinder so as to touch the top, base and the lateral surface of the cylinder as shown in the figure. If the radius of the sphere is r, the volume of the cylinder is



a. $4\pi^3$ b. $8\pi^3$ c. $2\pi^3$ d. $6\pi^3$

Ans: c

33. A rectangle is divided into 4 rectangles of different perimeters 14cm, 22cm, 18cm , 26cm. The perimeter of the biggest rectangle is



a. 10cm b. 20cm c. 40cm d. 80cm

Ans: c

<u>Time and work</u>

1. A can do a certain job in 25 days which B alone can do in 20 days. A started the work and was joined by B after 10 days. The number of days taken in completing the work was
   a. $12\frac{1}{2}$ b. $14\frac{2}{9}$ c. 15 d. $16\frac{2}{3}$

   Ans: d

2. A can finish a work in 18days and B can do the same work in 15 days. B worked for 10 days and left the job. In how many days A can finish the remaining work
   a. 6 days b. 8 days c. 5 days d. 9 days

   Ans: a

3. A does a work in 10days and B does the same work in 15 days. In how many days they together will do the same work?
   a. 5 days b. 6 days c. 8 days d. 4 days

   Ans: b

4. A can do a piece of work in 10days and B can do the same work in 12 days. How long will they take to finish the work, if both work together?
   a. 6 days b. $5\frac{5}{11}$ days c. 7 days d. 8 days

   Ans: b

5. A and B together can complete a work in 15days. B alone can complete the same work in 45days. Then
   a. A is twice as good workman as B
   b. B is twice as good workman as A
   c. A is thrice as good workman as B
   d. B is thrice as good workman as A

   Ans: A

6. A, B and C can complete a piece of work in 24, 6 and 12 days respectively, working together they will complete the same work in
   a. $3\frac{3}{7}$ days b. $4\frac{2}{7}$ days c. $10\frac{3}{7}$ days d. $12\frac{1}{4}$ days

   Ans: a

7. First pipe can fill a tank in 12 hours. Second pipe can fill the same tank in 6 hours. Third pipe in 4 hours. How long will it take to fill the tank if all the 3pipes are opened simultaneously?
   a. 2 hrs b. 3 hrs c. 4 hrs d. 12 hrs

   Ans: a

8. Seven men working 9 hours a day can do a piece of work in 30days. In how many days will 10men working for 7hours a day do the same work?
   a. 28 days b. 30 days c. 32 days d. 27 days

   Ans: d

9. A can do a certain job in 12 days. B is 60% more efficient than A. How many days does B alone take to do the same job?
   a. 6 days b. 7.5 days c. 8 days d. 8.5 days

   Ans: b

10. 140 men can finish a piece of work in 11 days. How many days will 110 men take to finish the same work?
   a. 15 days b. 12 days c. 13 days d. 14 days

   Ans: d

11. A tank can be filled by an inlet tap in 10hours and it can be emptied by an outlet pipe in 12 hours. If both the inlet tap and outlet pipe are opened, find the time taken to fill the tank
    a. 120hrs b. 60hrs c. 30hrs d. 15hrs

    Ans: b

12. Two taps can fill a tank in 30minutes and 40 minutes. Another tap can empty it in 24minutes. If the tank is empty and all the three taps are kept open, in how much time the tank will be filled?
    a. ½ hour b. 2 hours c.1½ hour d. 1 hour

    Ans: d

13. A can complete ¼ part of a work in 20days. A can complete remaining ¾ part of the work in
    a. 10 b. 20 c. 30 d. 60

    Ans: d

14. A can do certain job in 12days. B is 60% more efficient than A. How many days does B alone take to do the same job?
    a. 8.5 days b. 6.5 days c. 9.5 days d. 7.5 days

    Ans: d

15. A and B can do a piece of work in 18days. B and C in 24 days; C and A in 36 days. In how many days can they do it all working together?
    a. 16 b. 12 c. 13 d. 26

    Ans: a

16. If 24 persons can do 180jobs in 15 days, then find the number of persons required to do 240jobs in 12 days.
    a. 38 b. 40 c. 42 d. 44

    Ans: b

17. If A and B together complete a work in 20days. If A alone completes the work in 24days, then B alone completes the work in
    a. 14 days b. 44 days c. 120 days d. 48 days

    Ans: c

18. A tap can fill a tank in 15minutes. Another tap can empty it in 20minutes. Initially the tank is empty, if both the taps start functioning at the same time, when will the tank become full?

a. 1 hour b. 3 hours c. 2 hours d. 4 hours

Ans: a

19. Three men A, B and C can complete a job in 8, 12 and 16 days respectively. A and C work together for 2 days then C leaves and B joins. In how many days can A and B finish the work?
    a. 1 b. 3 c. 4 d. 5

    Ans: b

20. A man and woman are engaged in a work. A man can do a piece of work in 4days and the woman can do in 12days. Find how many days will they take to finish it together?
    a. 6 days b. 5 days c. 4 days d. 3 days

    Ans: d

21. A can do a piece of work in 20days and B can do it in 25days. Both of them finished the work and earned Rs. 3,600. Then A's share is
    a. Rs. 1,600 b. Rs.2,000 c. Rs. 3,000 d. Rs. 3,100

    Ans: b

22. If 22men can build a wall of 110meter in 10days. The length of a similar wall built by 30men in 6days is
    a. 100mts b. 90mts c. 80mts d. 70mts

    Ans: b

23. A, B and C together earn Rs.300 per day. While A and C together earn Rs.188 and B and C together earn Rs.152. The daily earning of C is
    a. Rs.68 b. Rs.150 c. Rs.112 d. Rs.40

    Ans: d

24. If 12men and 16women can do a piece of work in 5days. 13men and 24 women can do it in 4days. Then the ratio of the daily work done by a man to that of a woman is
    a. 3:1 b. 2:3 c. 2:1 d. 4:5

    Ans: c

25. A and B can do a work in 12days. B and C in 15 days. C and A in 20days. If A,B and C work together they will complete the work in
    a. $15\frac{2}{3}$days b. 5 days c. 10 days d. $6\frac{5}{7}$days

Ans: c

26. Two taps can fill a tank in 45minutes and 60minutes. Another tap can empty it in 30minutes. If the tank is empty and all the 3taps are kept open in how much time the tank will be filled?
    a. 3 hours b. 4 hours c. 6 hours d. 12 hours

    Ans: b

1. A, B and C can complete a piece of work in 24, 6 and 12 days respectively. If they work together, in how many days they will complete the same work?
    a. 1/24 day b. 7/24 day c. 24/7 days d. 24/11 days

    Ans: c

2. 12 men complete the 2400sq.m ploughing work in 10days. How many men are required to complete 3600sq.m ploughing work in 18days?
    a. 10men b. 15men c. 18men d. 20men

    Ans: a

3. 2 men and 7 boys can do a piece of work in 14 days, 3 men and 8 boys can do the same in 11 days. In how many days, 3times the work can be completed by 8men and 6boys?
    a. 21 days b. 18 days c. 24 days d. 36 days

    Ans: a

4. A can do a work in 10days and B can do the same work in 15days. They earn Rs.1500 together. How will they share this amount?
    a. Rs.850 and Rs.650 b. Rs.900 and Rs.600 c. Rs.950 and Rs.550 d. Rs.1000 and Rs.500

    Ans: b

5. If 6men and 8boys can do a piece of work in 10days while 26men and 48boys can do the same work in 2days, then what is the time taken by 15men and 20boys to complete the same type of work?
    a. 4days b. 5days c. 6 days d. 7 days

    Ans: a

6. If 40men working 8hours a day, can write 1920 pages in 4days, then 60men working 6hours a day, can write how many pages in 2days?
    a. 980 b. 1080 c. 1180 d. 1280

Ans: b

7. A man is engaged in an office on contractual basis for 30days. In the terms and conditions of his appointment it is mentioned that he will get Rs.150 per day and if he is absent, an amount of Rs.25 per day will be deducted. On completion of his contract, he receives Rs.3625 only. For how many days was he present in the office?
   a. 20 days b. 22 days c. 25 days d. 27 days

   Ans: c

8. P and Q can do a job in 5days and 10days respectively. They began work together but P leaves after some days and Q finishes the remaining job in 4days. After how many days did P leave?
   a. 4 b. 3 c. 2 d. 1

   Ans: c

9. A and B can do the work in 8days and B and C can do the same work in 12days. A, B and C can do the same work in 6days. In how many days both A and C can do the same work?
   a. 4 b. 6 c. 8 d. 12

   Ans: c

10. 7 men can complete a work in 52days. In how many days will 13men finish the same work?
    a. 20days b. 13 days c. 7 days d. 28 days

    Ans: d

11. If 12 compositors can compose 60pages of a book in 5hrs, how many compositors will compose 200 pages of the book in 20hrs?
    a. 8 b. 10 c. 12 d. 11

    Ans: b

12. A and B can do a piece of work in 18days; B and C can do it in 24days; A and C can do it in 36days. All working together can complete in
    a. 12days b. 13days c. 14days d. 16days

    Ans: d

13. 4men and 6women finish a job in 8days, while 3men and 7women finish in 10days. In how many days will 10women working together finish it?
    a. 24 b. 32 c. 36 d. 40

Ans: 40

14. Ramesh is thrice as good as workman as Bipan and is therefore able to finish a piece of work in 40days less than Bipan. Find the tike in which they can do it working together?
    a. 10 days b. 15 days c. 16 days d. 18 days

    Ans: b

15. X men can complete a work in y days and y women can complete the same work in x days. Find the number of days the same work can be completed by a group xy men and women.
    a. 4 days b. 3 days c. 2 days d. 1 day

    Ans: d

16. 15men can complete a work in 54days then 9men can complete the same work in
    a. 45 b. 51 c. 90 d. 100

    Ans: c

17. A and B together can do a piece of work in 12days, which B and C together can do in 16days. After A has been working at it for 5days and B for 7days, C finishes it in 13days. In how many days C alone will do the work?
    a. 16 days b. 24 days c. 36 days d. 48 days

    Ans: b

18. 10 women can complete a work in 7days and 10children take 14days to complete the same work. How many days will 5women and 10children take to complete the work.
    a. 3 b. 5 c. 7 d. None of these

    Ans: c

19. Two pipes can fill a tank in 10hours and 12hours respectively while a third pipe empties the full tank in 20hours. If all the three pipes operate simultaneously in how much time the tank will be filled?
    a. 7 hours b. 8 hours c. 7 hours 30min d. 8 hours 30min

    Ans: c

20. A and B can do a piece of work in 30days, while B and C can do the same work in 24days and C and A in 20days. In what time can A alone can do it?
    a. 30days b. 48days c. 36days d. 45days

Ans: b

21. If p men working p hours per day for p days produce p units of a product, then how many units of product will be produced by n men working n hours per day for n days.

    a. $\frac{p^2}{n^2}$ b. $\frac{p^3}{n^2}$ c. $\frac{n^2}{p^2}$ d. $\frac{n^3}{p^2}$

    Ans: d

22. A and B can do a work in 4days. If A alone does the same in 12days, in how many days C and B alone can complete that work?

    a. 6 b. 10 c. 8 d. 3

    Ans: a

23. Sixteen man can complete a work in12days. Twenty four children can complete the same work in 18days. Twelve men and eight children started working and after eight days 3 more children joined them. How many days will they now take to complete the remaining work?

    a. 2 days b. 4 days c. 6 days d. 8 days

    Ans: b

1. Two pipes can fill a water tank separately by 12minutes and 20minutes a waste pipe can drain off in 30gallon/min. If all the three pipes are open the tank fills in 30minutes, then the capacity of water tank is

   a. 300 gallons b. 400 gallons c. 500 gallons d. 600 gallons

Ans: a

2. A can do a piece of work in 15days and B can do it in 20days. They work together for 6 days and then A goes away. In how many days B will finish the remaining work?

   a. 4 days b. 5 days c. 6 days d. 7 days

   Ans: c

3. A and B together can do a work in 8days. Where A alone can do the work in 12days, B alone can do the work in

   a. 12 b. 24 c. 8 d. 20

   Ans: b

4. A and B can do a work in 8days, B and C in 12days, C and A in 24days. If A, B and C work together, then the number of days, they will complete the work is
   a. 6 b. 7 d. 8 d. 4

   Ans: c

5. A and B working together can finish a piece of work in 20days while B alone can do it in 30days. In how many days can A alone finish the work?
   a. 20 b. 30 c. 50 d. 60

   Ans: d

6. A and B can together finish a work in 30days. They worked at it for 20days and then B left. The remaining work was done by A alone in 20 more days. A alone can finish the work in
   a. 48 days b. 50 days c. 54 days d. 60 days

   Ans: d

7. A can do a piece of work in 40days. He works for 8 days and then B completed it in 16days. How long will they work together to complete the work?
   a. $13\frac{1}{3}$days b. 12 days c. 16 days d. 11 days

   Ans: a

8. If 30men can do a piece of work in 24days, in how many days will 12men do it?
   a. 30 b. 44 c. 60 d. 76

   Ans: c

9. Two taps A and B can fill a tank in 10hours and 15hours respectively. Both the taps are opened for 4hours and then B is turned off. The time taken by A to fill the remaining tank is
   a. 12/5 hrs b. 13/10 hrs c. 6 hrs d. 10/3 hrs

   Ans: d

10. Two pipes A and B can fill a tank in 10hours and 15hours respectively. Find the time taken to fill the tank when both the pipes are turned on simultaneously.
    a. 6hrs b. 5hrs c. 30hrs d. 12hrs

    Ans: a

11. A and B can do a work in 12days , B and C can do it in 15 days, C and A can do it in 20days. Then the number of days required to complete the work A, B, C together is

a. 5 b. 10 c. 15 d. 20

Ans: b

12. 4 men and 6 women finish a job in 8 days, while 3 men and 7 women finish it in 10days. In how many days will 10 women finish it?
    a. 32 b. 24 c. 36 d. 40

    Ans: d

13. A and B undertake to do a piece of work for Rs.600. A alone can do it in 6days while B alone can do it in 8days. With the help of C, they finish it in 3days. Find the share of C.
    a. Rs.75 b. Rs.100 c. Rs.150 d. Rs.50

    Ans: a

14. A and B can do a piece of work in 12days. B and C in 15 days. C and A in 20days. All the three together will complete the work in
    a. 15 days b. 5 days c. 10 days d. 12 days

    Ans: c

15. 8 children and 12 men complete a certain piece of work in 9 days. Each child takes twice the time taken by a man to finish the work. In how many days will 12 men finish the same work?
    a. 12 days b. 18 days c. 15 days d. 36 days

    Ans: a

16. 7 men can complete a work in 12 days. They started the work and after 5 days, two men left. In how many days will the work be completed by the remaining men?
    a. 5.8 days b. 6.8 days c. 9.8 days d. 8 days

    Ans: c

17. 8 men and 12 women can complete a work in 10 days while 6 men and 8 women in 14 days. Number of days taken by a man alone to complete the work is
    a. 210 b. 70 c. 280 d. 140

    Ans: d

18. If 9 girls can prepare 135 garlands in 3hours, number of girls to prepare 270 garlands in 1 hour is
    a. 20 b. 54 c. 43 d. 19

Ans: b

19. If 7 spiders make 7 webs in 7days, then 1 spider will make 1 web in how many days?
    a. 1 b. 7/2 c. 7 d. 49

    Ans: c

20. If 56men can do a piece of work in 42days, number of men do the same work in 14days?
    a. 156 b. 168 c. 119 d. 148

    Ans: b

Number series

1. How many terms are there in the series? 201, 208, 215, --------- 369
   a. 23 b. 24 c. 25 d. 26

   Ans: C

2. $2^2 + 4^2 + 6^2 + \cdots + 20^2 = - - - - -$
   a. 1155 b. 1540 c. 2310 d. 385× 385

   Ans: b

3. Find the sum of the first 40 terms of the series $1^2 - 2^2 + 3^2 - 4^2 + \cdots$
   a. 820 b. -820 c. 870 d. -870

   Ans: b

4. Find the sum of the following series $2^2 + 3^2 + \cdots + 20^2$
   a. 2867 b. 2868 c. 2869 d. 2870

   Ans: c

5. $\frac{1}{1.2.3} + \frac{1}{2.3.4} + \frac{1}{3.4.5} + \frac{1}{4.5.6}$ is equal to
   a. $\frac{15}{31}$ b. $\frac{7}{30}$ c. $\frac{16}{21}$ d. $\frac{21}{27}$

   Ans: b

6. Find the value of (1- 1/3) (1 – ¼) (1 – 1/5) --------- (1-1/100)
   a. 1/100 b. 1/50 c. 2/3 d. 99/100

   Ans: b

1. In a geometric series, if the fourth term is 2/3 and seventh term is 16/81, then what is the first term of the series?
   a. 2/3 b. 4/9 c. 8/27 d. 9/4

   Ans: d

2. The seventh term in the series 2, 6, 12, 20, 30, ...
   a. 42 b. 72 c. 56 d. 90

   Ans: c

3. The value of $\frac{1}{\sqrt{2}+1}+\frac{1}{\sqrt{3}+\sqrt{2}}+\frac{1}{\sqrt{4}+\sqrt{3}}+----+\frac{1}{\sqrt{9}+\sqrt{8}}$ is :
   a. $1+\sqrt{2}+\sqrt{3}+\sqrt{4}+----+\sqrt{9}$
   b. $\overline{3}+\sqrt{5}+\sqrt{7}$ c. $10\sqrt{5}$ d. 2

   Ans: d

4. The 20th term of 2, 10 30, 68, ... is
   a. 408 b. 8020 c. 820 d. 420

   Ans: b

1. Find the sum of first 20 multiples of 15
   a. 3150 b. 3050 c. 2750 d. 2950

   Ans: a

2. Find the sum of the first 20 terms of the series $1^2-2^2+3^2-4^2+5^2-6^2+\cdots$.
   a. -420 b. -210 c. 2870 d. 420

   Ans: b

3. $1+\frac{1}{2}+\frac{1}{4}+\frac{1}{7}+\frac{1}{14}+\frac{1}{28}$ is equal to
   a. 2.5 b. 2.0 c. 1.5 d. 1.0

   Ans: b

4. Find the sum of the first 20terms of the geometric series 5/2 + 5/6 + 5/18 +....
   a. $\frac{15}{4}\left[1-\frac{1}{3}\right.^{20}$ b. $\frac{15}{4}\left[1-\frac{1}{3}\right.^{18}$ c. $\frac{15}{4}\left[1-\frac{1}{3}\right.^{16}$ d. $\frac{15}{4}\left[1-\frac{1}{3}\right.^{14}$

   Ans: a

5. If $1^3 + 2^3 + 3^3 + \cdots + n^3 = 36100$ then 1 + 2+ 3+ .....+ n is equal to
   a. 290 b. 190 c. 390 d. 490

   Ans: b

6. Find the sum of all natural numbers between 300 and 500 which are divisible by 11.
   a. 7337 b. 7227 c. 7447 d. 7557

   Ans: b

7. The product of n consecutive positive integers is divisible by
   a. $(n+1)!$ b. n C. $(n-1)!$ D. $(n+1)(n-1)$

   Ans: b

8. The 5th term in the series 2/5, 6/25, 18/125, ...
   a. 162/625 b. 81/3125 c. 54/625 d. 162/3125

   Ans: d

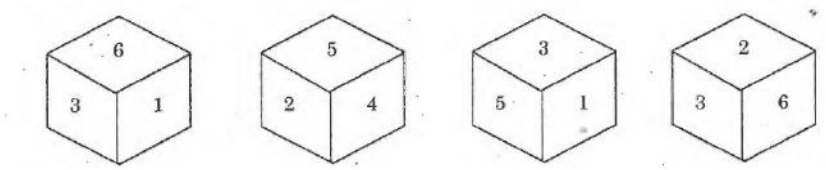
9. The sum of all 3digit numbers which are divisible by 8 is
   a. 61376 b. 63176 c. 67136 d. 66137

   Ans: a

Puzzles – Dice

No questions asked on Dice

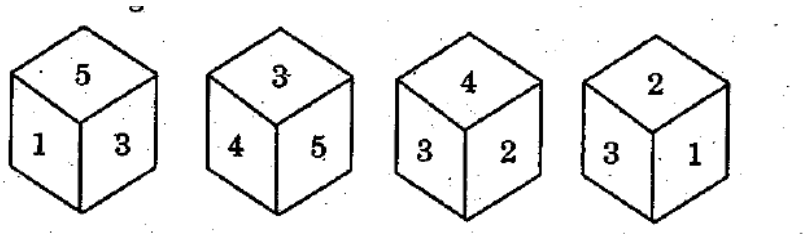
1. A dice thrown 4 times produced the following results which number will appear opposite to number 3?



   a. 4 b. 5 c. 6 d. 1

   Ans: a

2. Given the following:

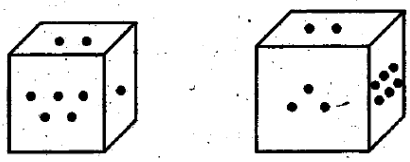


What number is opposite to 4?

a. 1 b. 2 c. 5 d. 6

Ans: a

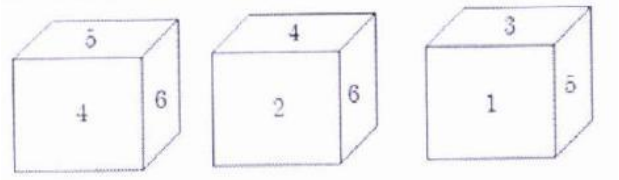
3. Two portions of a dice are given below. When 1 is at the top, which number will be at the bottom?



a. 3 b. 4 c. 5 d. 6

Ans: d

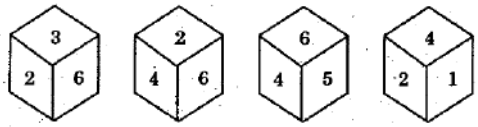
1. In a die given below the number opposite to the number 2 is



a. 6 b. 5 c. 4 d. 3

Ans: b

2. Consider the following dice



Which is opposite to 3?

a. 1 b. 4 c. 5 d. 2

Ans: b

3. Three views of a cube are given below. What is the letter opposite to A?

a. H b. P c. B d. M

Ans: a

<u>Decision making and problem solving, Logical reasoning, Visual Reasoning, Alpha numeric reasoning</u>

1. A and B are brothers, C and D are brothers. A's son is D's brother, how is B related to C?
   a. Father b. Brother c. Grandfather d. Uncle

   Ans: d

2. Murali's present age is half of his father's age. Before 10years, his father's age was thrice his age. Find the present age of Murali and his father.
   a. 16,32 years b. 15, 30 years c. 20, 40 years d. 17, 34 years

   Ans: c

3. Arun's age is half as his father. Twelve years ago, his father's age was three times that of Arun's, what is the present age of Arun?
   a. 24 b. 48 c. 36 d. 12

   Ans: a

4. The sum of the ages of Rani and Mari is 14years more than the sum of ages of Mari and Nancy. Find how many years Nancy is younger than Rani?
   a. 12 b. 16 c. 14 d. 28

   Ans: c

5. A mother is 20years older than her daughter, 4 years before she was 5 times of her daughter's age at that time. How old is the daughter now?
   a. 9 b. 12 c. 18 d. 16

   Ans: a

6. Ram starts from a point A and walks 6 Km North, then turns left and walks 8 Km, then turns left and walks 12 Km upto the point B. What is the direction of Ram?
   a. North b. South c. East d. West

Ans: b

7. Ina row of students the place of Rahul from right is 12th and from left is 4th. How many students should be added to make the total number of students 28?
   a. 14 b. 13 c. 20 d. 18

   Ans: b

8. A person travels from A to B at an average speed of 60km/hr and B to C at 50km/hr and C to D at 40km/hr. The distance from A to B, B to C, C to D are equal. What is the average speed of the whole journey?
   a. 37.68 km/hr b. 48.65 km/hr c. 45.68 km/hr d. 50.00 km/hr

   Ans: b

9. From Trichy bus stand if we buy 3 tickets to Karur and 2 tickets to Pudukottai, the total cost is Rs. 85, but if we buy 2 tickets to Karur and one ticket to Pudukottai, the total cost is Rs.50. Find the fares from Trichy to Karur and Pudukottai.
   a. Rs. 15, Rs. 20 b. Rs. 17, Rs. 23 c. Rs. 19, Rs. 31 d. Rs.30, Rs.20

   Ans: a

10. Three shirts and four pants cost Rs.3,680. Two pants and one shirt cost Rs.1,680. Find the costs of a shirt and a pant?
    a. Rs.320 and Rs.680 b. Rs.300 and Rs.600 c. Rs.400 and Rs.450 d. Rs.310 and Rs.690

    Ans: a

11. An employee spends on an average Rs.2,500 for the first 8 months of a year and Rs.1,500 for the next 4 months. If he saves Rs.10,000 that year, then his monthly income is
    a. 2,500 b. 3,000 c. 2,600 d. 3,200

    Ans: b

12. The income in 3 months of a person is same as his expenditure in 4 months. If his annual savings is Rs.600. What is his monthly income?
    a. Rs.200 b. Rs.250 c. Rs.300 d. Rs.600

    Ans: a

13. In a group of cows and hens, the number of legs are 14 more than twice the number of heads. The number of cows is
    a. 5 b. 7 c. 10 d. 12

    Ans: b

14. There are deer and peacocks in a zoo. Total number of their heads is 80. The total number of their legs is 200. How many peacocks are there?
    a. 20 b. 30 c. 50 d. 60

    Ans: d

15. A train 150metres long passes a telegraph post in 12seconds. Find the speed of the train.
    a. 15 km/hr b. 30 km/hr c. 45 km/hr d. 60 km/hr

    Ans: c

16. A book contains 144 pages. Each page contains 25lines. How many pages will the book contain if every page has 24lines?
    a. 120 b. 130 c. 150 d. 140

    Ans: c

17. If a particular amount distributed to each of 14 students is Rs.80 more than the amount distributed to each of 18 students, find the amount.
    a. Rs.5040 b. Rs.3150 c. Rs.2520 d. Rs.4200

    Ans: a

18. A car is travelling at the average speed of 50Km/hr. Find the distance covered in 12 minutes
    a. 5 km b. 8 km c. 10 km d. 12 km

    Ans: c

19. In a clock, the angle traced by the hour hand in 12 hours is
    a. 360 degree b. 180 degree c. 90 degree d. 30 degree

    Ans: a

20. If two third of four fifth of seven eighth of a number is 63 then the number is
    a. 630 b. 360 c. 135 d. 35

    Ans: c

21. The average of the non-zero number and its square is five times the number, then the number is
    a. 9 b. 10 c. 7 d. 6

    Ans: a

22. If the sum of a rational number and its reciprocal is $\frac{13}{6}$ then the number is

a. $\frac{2}{3}$ or $\frac{3}{2}$ b. $\frac{1}{2}$ or 2 c. $\frac{5}{2}$ or $\frac{2}{5}$ d. $\frac{2}{7}$ or $\frac{7}{2}$

Ans: a

23. What integer must be added to each of the four numbers 10, 18, 22, 38 so that they become a proportion?
a. 4 b. 14 c. 2 d. 12

Ans: c

24. 3-25 here, which of the following number is suitable in 1, so that the number will be a perfect square?
a. 1 b. 0 c. 4 d. 6

Ans: b

25. How many numbers from 1 to 100 are there each of which is not only exactly divisible by 4 but also has 4 as a digit
a. 7 b. 14 c. 21 d. 10

Ans: a

26. If the fractions ½, 2/3, 5/9, 6/13 and 7/9 are arranged in ascending order of their values which one will be the fourth?
a. 7/9 b. 5/9 c. 6/13 d. 2/3

Ans: d

27. If 235 = 38 and 452 = 45 then 345 = ?
a. 49 b. 66 c. 72 d. 50

Ans: d

28. If $5 \oplus 3 = 34$ and $6 \oplus 2 = 40$ then, the value of $7 \oplus 1$ is
a. 54 b. 34 c. 50 d. 30

Ans: c

29. If $5^a = 6, 6^b = 7, 7^c = 5$, then find the value of abc.
a. 0 b. -1 c. 2 d. 1

Ans: d

30. ½ of ¾ of 4/9 of a number is 60. Then find the number
a. 300 b. 120 c. 180 d. 360

Ans: d

31. If 4 * 8 = 144 and 6 * 9 = 225, then what is the value of 7*10?
a. 256 b. 289 c. 170 d. 17

Ans: b

32. If – means÷, + means ×, ÷ means –, × means +, then which of the following equation is correct?
a. $52 \div 4 + 5 \times 8 - 2 = 36$ b. $43 \times 7 \div 5 + 4 + 8 = 25$

c. $36 - 4 \div 12 + 5 \times 3 = 430$ d. $36 - 12 \times 6 \div 3 + 4 = 60$

Ans: a

33. If $2 \div 3 = \frac{B}{C}$ $3 \div 2 = \frac{C}{B}$ $4 \div 3 = \frac{D}{C}$ then $1 \div 2 = ?$
a. B/C b. C/B c. D/C d. A/B

Ans: d

34. If TRIANGLE is coded as SQHZMFKD which word would be coded as DWZLOKD?
a. DISMISS b. DISJOIN c. ADJOINT d. EXAMPLE

Ans: d

35. If DELHI is coded as 73541 and CALCUTTA as 82589662 how can CALICUT be coded?
a. 5279431 b. 5978213 c. 8251896 d. 8543691

Ans: c

36. If TNPC = 5791 and CUP = 169 then CPU = ?
a. 159 b. 196 c. 791 d. 971

Ans: b

37. If ROAD is coded as URDG then SWAN is coded as
a. VXDQ b. VZDQ c. VZCP d. UXDQ

Ans: b

38. If C = 3, CALL = 28 then CELL =
a. 30 b. 31 c. 32 d. 33

Ans: c

39. 'Clerk' is related to 'office' with the same way as 'servant' is related to
a. House b. Boss c. Master d. Order

Ans: a

1. A father said to his son, "Your age now is the same as my age at the time of your birth". If the father's age is 38years now, the son's age five years back was
   a. 14 b. 19 c. 24 d. 38

Ans: a

2. A person's age is two fifth of the age of his mother. After 8 years, he will be one half of the age of his mother. How old is the mother at present?
   a. 42 b. 40 c. 45 d. 48

   Ans: b

3. If X is the sister of the son of Y's son then how X is related to Y?
   a. Grandson b. Granddaughter c. Sister d. Brother

   Ans: b

4. A is B's sister, C is B's mother, D is C's father, E is D's mother. Then A is the
   a. Grandmother b. Grandfather c. Daughter d. Granddaughter

   Ans: d

5. From his house, Sathish went 15kms to the North, then he turned west and covered 8kms, then he turned south and covered 6Kms. Finally, turning to east, he covered 8Kms then in which direction is he from his house?
   a. East b. West c. North d. South

   Ans: c

6. Mohan started from point P and walked 2m towards west. He then took a right turn and walked 3m before taking a left turn and walked 5m. He finally took a left turn, walked 3m and stopped at a point Q. How far is point Q from point P?
   a. 2m b. 6m c. 7m d. 8m

   Ans: c

7. A is richer than B, C is richer than A, D is richer than C, E is the richest of all. If they are made to sit in the above degree of richness, who will have the central position?
   a. A b. B c. C d. D

   Ans: c

8. Richard is 15th from the front in a column of boys. There were thrice as many behind him as there were in front. How many boys are there between Richard and the seventh boy from the end of the column?
   a. 33 b. 34 c. 35 d. 36

   Ans: c

9. A voluntary organization planted a total of 106trees along the roadside. Some of the trees were fruit bearing trees. If the number of non-fruit bearing trees was two more than thrice the number of fruit bearing trees, what was the number of fruit bearing trees planted?
   a. 20 b. 22 c. 24 d. 26

   Ans: d

10. There are 5 friends P, Q, R, S and T. P knows more than S. Q knows as much as T. R knows less than T. S knows more than Q. The best knowledgeable person amongst all is
    a. P b. Q c. S d. T

    Ans: a

11. P, Q, R and S are to be seated in a row. R and S cannot be together. Also Q cannot be at the third place. If P and Q are together, which of the following must necessarily be true?
    a. R is not at the first place
    b. P is at the third place
    c. S is at the first place
    d. R is at the first place

    Ans: b

12. Six persons A, B, C, D, E and F are sitting in a row. B is between F and D. E is between A and C. A is next to neither F nor D. C does not sit next to D. F is between which of the following two persons?
    a. A and C b. C and B c. C and D d. A and B

Ans: b

13. Read the following statements:
    1. Either A and B are of the same age or A is older than B.
    2. Either C and D are of the same age or D is older than C
    3. B is older than C

    Which one of the conclusions can be drawn from the above statements?

a. A is older than C b. D is older than C c. A is older than B d. B and D are of the same age.

Ans: a

14. Six students A, B, C, D, E and F are sitting in the field. A and B are from Nehru house while the others belong to Gandhi house. D and F are tall while the others are short. A, C and D are wearing glasses while the others are not. Which tall student of Gandhi house is not wearing glasses?
a. B b. C c. F d. E

Ans: c

15. The minute hand of a circular clock is 14cm long and that of hour hand is 7cm. Find how far does the tip of the minute and hour hand move in 30minutes?
a. 88cm, 3.66cm b. 22cm, 0.915cm c. 44cm, 1.83cm d. 1.83cm, 88cm

Ans: c

16. Babu has 540 cakes. He wants to distribute them equally to some persons. If the number of cakes given to each person is equal to 15% of the number of persons, find the number of cakes given to each person.
a. 60 b. 20 c. 9 d. 54

Ans: c

17. An employee may claim Rs.8 for each kilometer which he travels by taxi and Rs.5 for each kilometer when he drives his won car. In one week he claimed Rs.463 for travelling 80Km. How many Km he travel by taxi?
a. 18 b. 21 c. 24 d. 32

Ans: b

18. A kite is flying with a string of length 200m. If the thread makes an angle 30degree with the ground. Find the distance of the kite from the ground level. (Assume the string is along a straight line)
a. 105 m b. 50 m c. 100 m d. $100\sqrt{3}$m

Ans: c

19. Maximum score of an innings was 3/11 of total score. In that innings, second maximum score was 3/11 of remaining score. If the difference of these scores was 9, then total score was
a. 106 b. 146 c. 118 d. 121

Ans: d

20. A library has an average of 510visitors on Sundays and 240visitors on other days. The average number of visitors per day in a month of 30days beginning with a sunday is
a. 250 b. 276 c. 280 d. 285

Ans: d

21. If an electric train running at 108Km per hour, crosses a tree standing by the side of a track in 10seconds, the length of the train in metres is
a. 400 b. 350 c. 300 d. 450

Ans: c

22. In a group of 15 people, 7 read Hindi, 8 read English while 3 of them read none of these two. How many of them read both Hindi and English?
a. 0 b. 3 c. 4 d. 5

Ans: b

23. In a group of 15people, 7 read Hindi, 8 read English while 3 of them read none of these two. How many of them read both Hindi and English?
a. 0 b. 3 c. 4 d. 5

Ans: b

24. In an office, ¾ of the staff can neither type nor take shorthand. However, $1/5^{th}$ can type and $1/3^{rd}$ can shorthand. What part of the whole staff can do both?
a. 1/5 b. 3/40 c. 13/40 d. 17/60

Ans: d

25. A 2-digit number is 3 times the sum of its digits. If 45 is added to the number, its digits are interchanged. The sum of digits of the number is
a. 5 b. 7 c. 9 d. 11

Ans: c (repeated)

26. If + means ×, × means -, ÷ means + and – means ÷ then what is the value of (175-25) ÷ (5+20) × (3 +10).
a. 265 b. 78 c. 77 d. 354

Ans: c

27. What could be the maximum value of R in the following equation where P, Q and R represent the unit values 56P + 37Q + 48R = 1418
a. 4 b. 8 c. 0 d. 6

Ans: b

28. One half of one third of one sixth of a number is 10. Then the number is
    a. 350 b. 360 c. 340 d. 375

Ans: b

29. The sum of the squares of three consecutive positive odd numbers is 251. Find their sum?
    a. 25 b. 27 c. 26 d. 24

    Ans: b

30. In the series 6 4 1 2 2 8 7 4 2 1 5 3 8 6 2 1 7 1 4 1 3 2 8 6. How many pairs of alternate numbers have a difference of 2?
    a. 2 b. 4 c. 6 d. 8

    Ans: a

31. The sum of two numbers is 65 and their difference is 11. Find the numbers. (Choose the correct one)
    a. 38, 27 b. 23, 42 c. 30,35 d. 52,13

    Ans: a

32. If ¼ of 1/3 of ¾ of a number is 25. Then the number is
    a. 200 b. 300 c. 400 d. 500

    Ans: c

33. Find the number whose seventh part multiplied by its eleventh part gives 1232.
    a. 121 b. 49 c. 308 d. 316

    Ans: c

34. The difference of $1\frac{3}{13}$ and its reciprocal is equal to
    a. 87/208 b. 39/208 c. 31/197 d. 49/308

    Ans: a

35. If 7 is related to 56 then 10 is related to
    a. 74 b. 64 c. 50 d. 90

    Ans: d

36. The least perfect square number divisible by 3, 4, 5, 6 and 8 is
    a. 900 b. 1200 c. 2500 d. 3600

Ans: d

37. If ORIENT is written as 532146 and SOUL is 7598 how will you write LINE?
    a. 9241 b. 8341 c. 8241 d. 6241

    Ans: c

38. If HYDROGEN is represented as JCJZYSSD how ANTIMONY will be represented as
    a. CPVKOQPA b. CRZQWABO c. ERXMQSRC d. GTZOSUTE

Ans: b

39. If "NOIDA" is written as 39658, how will "INDIA" be written?
    a. 36568 b. 63568 c. 63569 d. 65368

    Ans: b

40. If 481 means "sky is blue", 246 means "sea is seep" and 698 means "sea looks blue" which number will denote sky?
    a. 4 b. 8 c. 1 d. none of these

    Ans: c

41. Convert 1789 in Roman figure
    a. MDCCLXXXIX b. MDCLXXIXXI c. MDCCCLXIXI d. MMDCCCCIXI

Ans: a

42. Which of the following words cannot be formed from the letters of the word FUNDAMENTAL
    a. TEAM b. MEDAL c. MEAL d. FULL

Ans: d

1. If man is called as girl, girl is called as woman, woman is called as boy, boy is called as butler and butler is called as officer, who will serve in a restaurant?
   a. Butler b. girl c. Man d. Officer

   Ans: d

2. A is much younger to B as he is older to C. If the sum of the ages of B and C is 48 years, what is the present age of A?
   a. 18 years b. 30 years c. 24 years d. 42 years

   Ans: c

3. In a row of girls Meena is 8th from the left and Radha is 13th from the right. If they interchange their position, Meena becomes 23rd from the left. How many girls are there in the row?
   a. 35 b. 36 c. 40 d. 41

   Ans: a

4. Ramani was born on March 21st 2004. Ravi was born 7 days before Ramani. The republic day of that year fails on Monday. Which day was Ravi was born?
   a. Sunday b. Monday c. Saturday d. Tuesday

   Ans: a

5. In 2014, Arjun's father age was two times of Arjun's age. In 2002, the father's age was three times as old as Arjun's age. In 1999, product of their age is
   a. 297 b. 192 c. 324 d. 412

   Ans: a

6. In a competitive examination a student scores 2 marks for every correct answer and loses 1 mark for every wrong answer. If he attempts all 50 questions and scores 70 marks, the number of questions he attempts correctly is
   a. 10 b. 30 c. 40 d. 45

   Ans: c

7. If orange is called butter, butter is called soap, soap is called ink, ink is called honey and honey is called orange, which of the following is used for washing of cloths?
   a. Orange b. honey c. butter d. ink

   Ans: d

8. A father is 45 and his son is 15. In how many years will the father be twice as old as his son?
   a. 10 b. 25 c. 15 d. 35

   Ans: c

9. Five persons A, B, C, D and E were walking along a street. D was ahead of A. E was following B. C was between A and B. Who was in the middle?
   a. A b. C c. B d. D

   Ans: b

10. Two stations A and B are 220 Km apart. One train starts at A at 6AM and moves towards B at 40Kmph. Another train starts at B at 7AM and moves towards A at 50KMPh. At what time will they meet?
    a. 10 AM b. 9.30AM c. 9AM d. 11AM

    Ans: c

11. A class starts at 10AM and lasts till 1.27 PM. Four periods are held during this interval. After every period, 5minutes are given free to the students. The exact duration of each period is
    a. 42 minutes b. 48 minutes c. 51 minutes d. 53 minutes

    Ans: b

12. If 1/3 of the liquid contents of a can evaporates on the first day and ¾ of the remainder evaporates on the second day, the fractional part of the original contents remaining at the close of the second day is
    a. 5/12 b. 7/6 c. 1/6 d. 7/12

    Ans: c

13. In covering a distance of 30Km, Rama takes 2hours more than Rekha. If Rama doubles her speed then she would take 1 hour less than Rekha. Then Rama's speed is
    a. 5km/hr b. 6km/hr c. 6.25 km/hr d. 7.5km/hr

    Ans: a

14. 15years hence A will be twice as old as his son. But 5years ago, he was 4 times as old his son. Their present ages are
    a. 20, 40 b. 15, 45 c. 30, 60 d. 25, 50

    Ans: b

15. A ladder of 25ft length reaches a window which is 24ft above the ground level on one side of the street. Keeping its foot at the same point the ladder is turned the other side of the street and now reaches a window of 7ft high. Then the width of the street
    a. 30 b. 32 c. 29 d. 31

    Ans: d

16. A boy introduced a girl as the daughter of the son of the father of his uncle. The girl is the boy's
    a. Nephew b. Niece c. Sister d. Aunty

Ans: c

17. Ravi travels a distance of 5 Km from a place A towards the North, turns left and walks 3 Km again, turns right and walks 2 Km, finally turns right and walks 3 Km to reach the place B. What is the distance between A and B?
    a. 3 Km b. 7 Km c. 10 Km d. 13 Km

    Ans: b

18. D is taller than C but not as tall as B, C is taller than A. Who among A B C and D is the tallest?
    a. A b. B c. C d. D

    Ans: b

19. A started from a place. After walking for a kilometer in a direction he turns to the left, then walking for a half Km, he again turns to the left. Now he is going eastwards. In what direction did he originally started?
    a. West b. East c. North d. South

    Ans: a

20. Five students P, Q, R, S and T were examined in a test. P scored higher marks than R and Q scored less marks than S. But S scored less marks than R and T scored higher marks than Q but less than R. Who scored the highest marks among five students?
    a. R b. P c. T d. S

    Ans: b

21. In a group of students, 65 play football, 45 play hockey, 42 play cricket, 20 both hockey and football, 15 play hockey and cricket, 25 play football and cricket, 8 play all the three games. Assuming each play atleast one game, the number of students in the group.
    a. 500 b. 200 c. 150 d. 100

    Ans: d

22. If
    Rama scored more than rani
    Rani scored less than Rathna
    Rathna scored more than Rama
    Ramya scored more than Rama but less than Rathna then who scored the highest?
    a. Rama b. rani c. Rathna d. Ramya

Ans: c

23. Three different containers contain 396 litres, 432 litres and 612 litres of mixtures of milk and water respectively. What biggest measure can measure all the different quantities exactly?
    a. 36 b. 32 c. 28 d. 24

    Ans: a

24. The number of cars that reach a city doubles every hour. If there were 30 cars present initially, the number of cars at the end of 7th hour is
    a. 3480 b. 3200 c. 3840 d. 3600

    Ans: c

25. An electric train 270 meter long is running at a speed 60 Km per hour. The time taken by the train to cross a platform of 230 meters in seconds is
    a. 40 b. 50 c. 60 d. 30

    Ans: d

26. A car is running at a speed of 108 Kmph. What distance will it cover in 15 seconds?
    a. 45 m b. 55 m c. 450 m d. none of these

    Ans: c

27. A man performs 3/5 of the total journey by rail, 7/20 by bus and the remaining 6.5km on foot. His total journey distance is
    a. 65 Km b. 100 Km c. 120 Km d. 130 Km

    Ans: d

28. An electric train is moving at a speed of 68 Km per hour. What is the distance covered by it in meters in 180 seconds?
    a. 4700 b. 5100 c. 5000 d. 6000

    Ans: b

29. If + means ×, - means +, × means ÷ , ÷ means -, then the value of $84 \times 28 + 8 \div 10 - 9 = ?$
    a. 23 b. 22 c. 30 d. 26

    Ans: a

30. In a set of first x natural numbers there 30 prime number. Find the number of composite numbers in the above set.

a. X – 30 b. 30 – x c. x – 29 d. x – 31

Ans: d

31. If the sum of two numbers is 1020 and their difference is 140 then the numbers are
    a. 680, 440 b. 540, 580 c. 580, 440 d. 520, 500

    Ans: c

32. The sum of three prime number is 101. The difference of two of them is 24. What are the numbers?
    a. 5, 59, 37 b. 41, 53, 7 c. 11, 37, 53 d. 3, 61, 37

    Ans: d

33. When a number is divided by 13, the remainder is 11. When the same number is divided by 17, the remainder is 9. Then the number is
    a. 339 b. 369 c. 349 d. 359

    Ans: c

34. How many digits are required for numbering the pages of a book having 300pages.
    a. 299 b. 492 c. 789 d. 792

    Ans: d

35. If 1 is added to the denominator of a fraction, the fraction becomes ½ and if 1 is added to the numerator the fraction becomes 1. The fraction is
    a. 4/7 b. 5/9 c. 2/3 d. 10/11

    Ans: c

36. A student looks only the total marks of a 10thstd state board public exam result. What are the marks required to guess a sure pass and a sure fail?
    a. ≥ 175 and 175 b. ≥ 435 and 175 c. ≥ 200 and 175 d. none of these

    Ans: b

37. The sum of the digits of two digit number is 11. When the digits are reversed the value of the reversed number is 9 less than the original number. Find the original number.
    a. 56 b. 65 c. 99 d. 70

    Ans: b

38. When any number is divided by 12, then dividend becomes $1/4^{th}$ of the other number. By how much percent first number is greater than the second number?
a. 50% b. 75% c. 100% d. 200%

Ans: d

39. From the following number sequences 5 3 4 6 7 9 2 4 1 6 8 6 5 9 4 8 3 5 6 2 1 9 2 how many odd number are there in the series that are preceded by an odd number and followed by an even number?
a. 2 b. 3 c. 4 d. 5

Ans: 5

40. If the sum and product of two numbers are 60 and 864 respectively the numbers are
a. 24, 36 b. 20,40 c. 26,34 d. 10,50

Ans: a

41. The given number 871378519 is divisible by
a. 9 b. 11 c. 7 d. 13

Ans: b

42. The sum of three digit natural numbers which are divisible by 8
a. 61370 b. 61376 c. 61763 d. 61673

Ans: b

43. Which of the following pairs is relatively prime number?
a. (12, 15) b. (101,201) c. (3,9) d. (17,51)

Ans: b

44. A shopkeeper uses a code OLISPAH = Rs.28, where O = Rs.1, L = Rs.2, I = Rs.3 and so on. What price does SOAP denote?
a. Rs.120 b. Rs.18 c. Rs.16 d. Rs.61

Ans: c

45. What year does it represent MDCLXVI?
a. 1966 b. 1866 c. 1766 d. 1666

Ans: d

46. If C =3, CEP = 24, what will be the value of HUX?
a. 47 b. 49 c. 51 d. 53

Ans: d

47. CD: GH :: LM:?
    a. DC b. HG c. ML d. AB

    Ans: d

48. If DMDQFX denotes the word ENERGY, then the word POWER is denoted by
    a. ONVER b. OMUFQ c. ONUDQ d. ONVDQ

    Ans: d

Logical number/Alphabetical/Diagrammatic sequences

1. Find the next term of 4 in the series is 1, 1, 2, 8, 3, 27, 4, ...
   a. 31 b. 29 c. 16 d. 64

   Ans: d

2. Find the wrong number in the series: 2, 9, 28, 65, 126, 216, 344.
   a. 2 b. 28 c. 65 d. 216

   Ans: d

3. Find the wrong number in the series: 10, 14, 28, 32, 64, 68, 132
   a. 32 b. 132 c. 14 d. 10

   Ans: b

4. Find out the missing term in the series 42, 30, -----, 12, 6.
   a. 18 b. 20 c. 19 d. 21

   Ans: b

5. Insert the missing number: 1, 8, 27, 64, 125, 216, ------
   a. 343 b. 341 c. 431 d. 215

   Ans: a

6. Insert the missing number 2, 6, 12, 20, 30, 42, 56, -------
   a. 62 b. 72 c. 64 d. 68

   Ans: b

7. Find the odd man out: 4, 9, 19, 39, 79, 149, 319
   a. 319 b. 149 c. 79 d. 39

   Ans: b

8. Find out the wrong number in the given series: 5, 11, 23, 47, 96, 191, 383
   a. 181 b. 23 c. 96 d. 5

   Ans: c

9. The next term of the series 7, 3, 10, 13, 23, ------ is
   a. 33 b. 36 c. 39 d. 43

   Ans: b

10. Find the odd man out: 3, 5, 7, 12, 17, 19
   a. 3 b. 12 c. 5 d. 19

   Ans: b

11. Find out the odd number in the series given 25, 36, 49, 81, 121, 169, 225
   a. 36 b. 49 c. 169 d. 225

   Ans: a

12. Find the odd man out in the series 2, 3, 4, 4, 6, 8, 9, 12, 16.
   a. 3 b. 6 c. 9 d. 12

   Ans: c

13. Find the missing number 1, 3, 3, 6, 7, 9, ?, 12, 21
   a. 10 b. 11 c. 12 d. 13

   Ans: d

14. Find out the wrong number in the sequence 156, 168, 182, 208
   a. 156 b. 168 c. 182 d. 208

   Ans: b

15. Find the next number in the following series 5, 10, 13, 26, 29
   a. 58 b. 32 c. 52 d. 68

   Ans: a

16. The odd man out in the following: 1, 144, 16, 25, 49, 81, 121, 36, 65 is
   a. 1 b. 49 c. 121 d. 65

   Ans: d

17. The odd man out in the following: 1, 125, 8, 216, 1000, 343, 729, 100 is
   a. 343 b. 1 c. 100 d. 8

   Ans: c

18. Find the next number of the sequence 0, 5/2, 8, 17/2, 24, 37/2, 48, ?
    a. 65/2 b. 67/2 c. 57/2 d. 55/2

    Ans: a

19. Find the missing term: 3, 15, ?, 63, 99, 143
    a. 35 b. 27 c. 45 d. 56

    Ans: a

20. Complete the series: AZ, GT, MN, ---- , YB
    a. SK b. JH c. SH d. TS

    Ans: c

21. Find the next alphabet in the sequence B, E, I, N?
    a. U b. V c. T d. S

    Ans: c

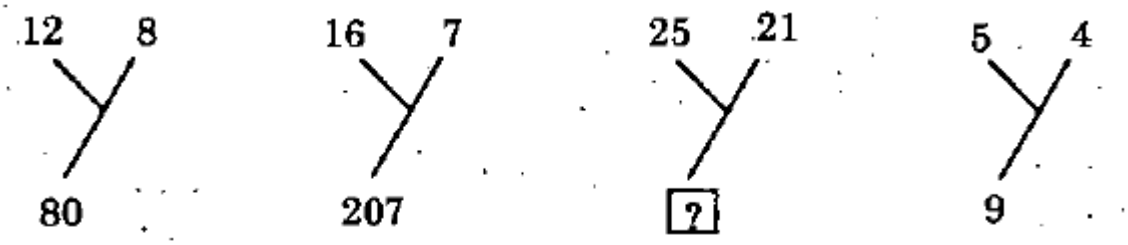
22. Find the missing letters in the series AZ, GT, MN, ??, YB.
    a. JH b. SH c. SK d. TS

    Ans: b

23. Find the next letter in the following sequence of alphabets M, N, O, L, R, I, V?
    a. A b. E c. F d. H

    Ans: b

24. Find the missing number in the series



    a. 184 b. 241 c. 210 d. 425

    Ans: a

1. Find the next number in the following series: 4, 6, 9, $13\frac{1}{2}$
    a. $20\frac{1}{4}$ b. $22\frac{3}{4}$ c. 19 d. $17\frac{1}{2}$

Ans: a

2. Find the next number in the series 5, 23, 59, 119, 209
   a. 335 b. 330 c. 417 d. 510

   Ans: a

3. The next term of the sequence 25, 36, 49, 64, 81, ...
   a. 16 b. 9 c. 100 d. 18

Ans: c

4. How many two digit numbers are divisible by 13?
   a. 7 b. 8 c. 9 d. 6

   Ans: a

5. Find the missing number in the place of ?3:11 :: 7:?
   a. 18 b. 22 c. 29 d. 51

   Ans: d

6. Find the number in the place of question mark? 21, 25, 34, 50, ?, 111, 160.
   a. 86 b. 72 c. 75 d. 59

   Ans: c

7. Find the missing number in the following: 4242, 4254, 4230, 4266, 4218, 4278, ----
   a. 4264 b. 4272 c. 4228 d. 4206

   Ans: d

8. Find the next term of the sequence: 0, 1, 1, 2, 3, 5, 8, 13, ...
   a. 17 b. 15 c. 31 d. 21

   Ans: d

9. Find the missing term marked by question mark in M3V, O5U, R7T, T9S, W11R, ?
   a. Y13Q b. Z13Q c. Y13P d. Y15Q

   Ans: a

10. The wrong term in the series: 11, 2, 21, 3, 32, 4, 41, 5, 51, 6
    a. 11 b. 21 c. 32 d. 51

    Ans: c

11. Find the missing term in the series: 4, 121, 9, 144, 16, 169, ----, 196

a. 14 b. 20 c. 25 d. 30

Ans: c

12. Identify the wrong number in the given series: 15, 16, 20, 28, 45, 70, 106.
a. 20 b. 28 c. 45 d. 70

Ans: b

13. Identify the wrong number in the given series: 15, 16, 20, 28, 45, 70, 106.
a. 20 b. 28 c. 45 d. 70

Ans: b

14. Which number will replace the question mark in the series0, 6, 24, 60, 120, 210, ?
a. 290 b. 240 c. 336 d. 504

Ans: c

15. The sequence follow a regular pattern. Find the correct letter for question mark, to complete the sequence C E I K O Q ?
a. R b. S c. T d. U

Ans: d

16. Pick out the odd one from the following alphabetical sequence
a. PSVYB b. HKNQT c. NQTWZ d. SVXAD

Ans: d

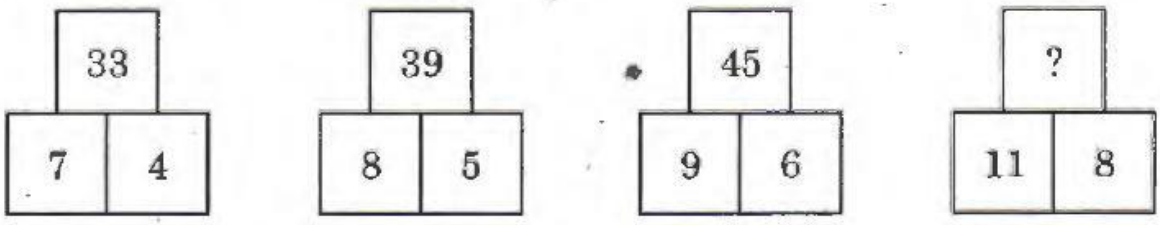
17. Find the missed alphabets in the series: A, P, ?, T, K, ?, F
a. R,G b. C,M c. S,R d. R,S

Ans: a

18. Find out the missing term in the given alphabet series: AZ, GT, MN, ------, YB.
a. JH b. SH c. SK d. TS

Ans: b

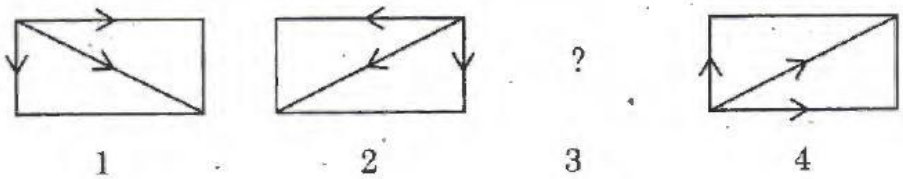
19. Find the missing number



a. 51 b. 57 c. 58 d. 53

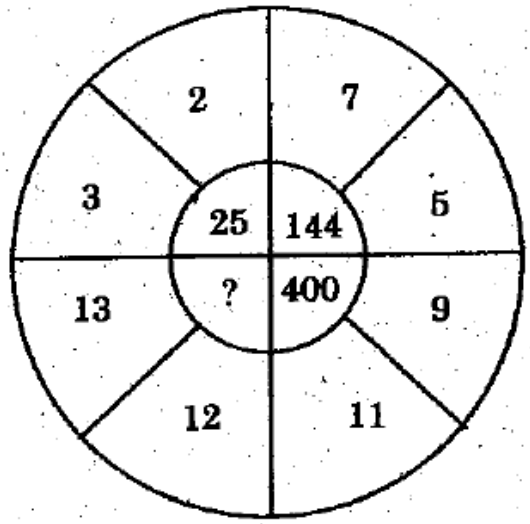
Ans: b

20. What is the missed figure in the sequence?



Ans: d

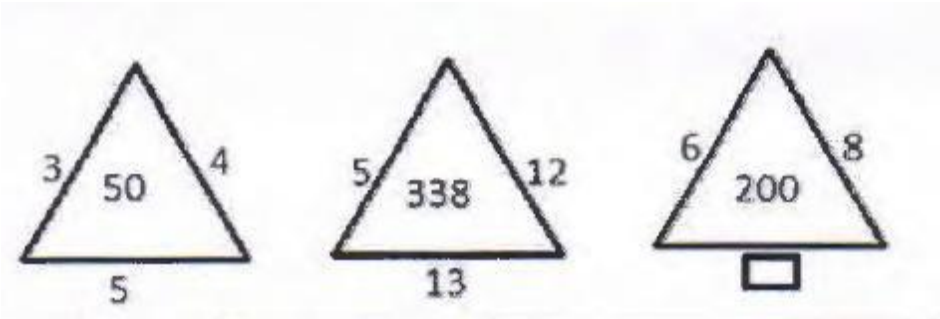
21. Which number will replace the question mark in the figure



a. 625 b. 1025 c. 1175 d. 825

Ans: a

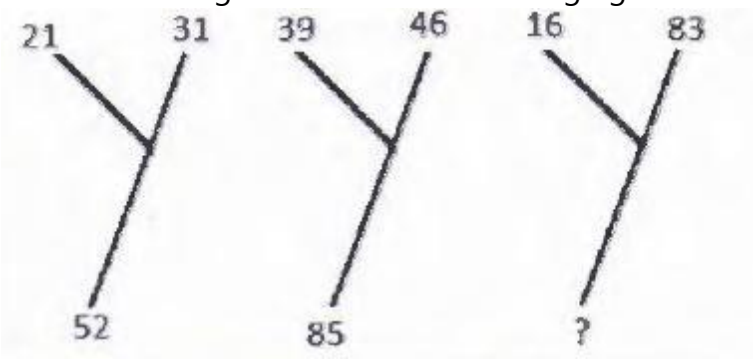
22. Find the missing numbers in the series:



a. 6 b. 8 c. 10 d. 12

Ans: c

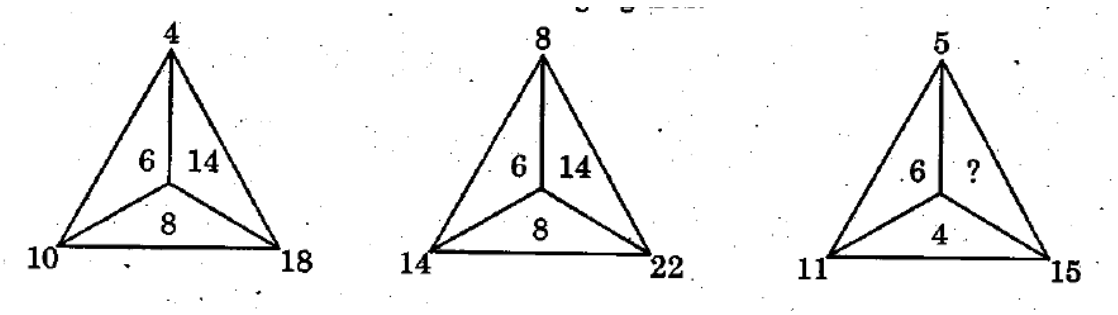
23. Find the missing number in the following figure:



a. 92 b. 72 c. 62 d. 99

Ans: d

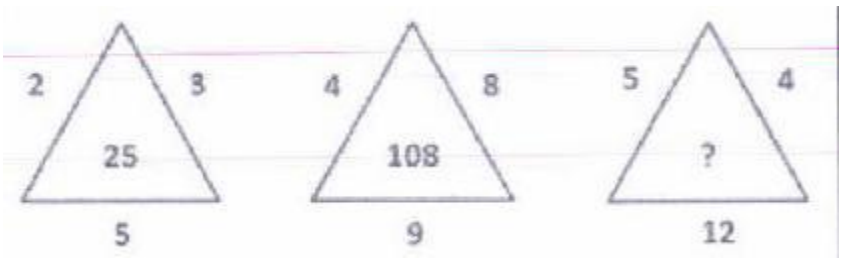
24. Find the missing number from the following figure



a. 8 b. 14 c. 10 d. 6

Ans: c

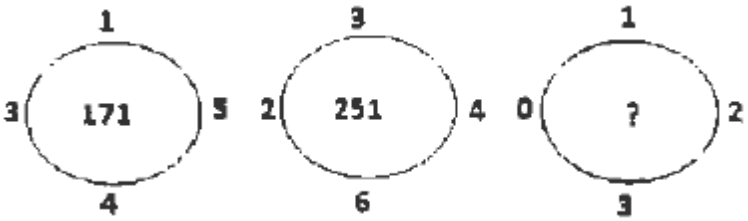
25. Find the missing number in the following figure



a. 80 b. 114 c. 108 d. 120

Ans: c

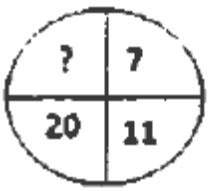
26. Find the missing number in the series



a. 102 b. 301 c. 231 d. 32

Ans: d

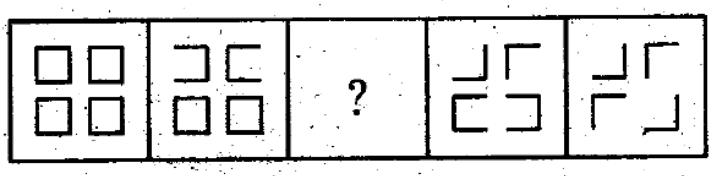
27. In the figure which number will replace the question mark?

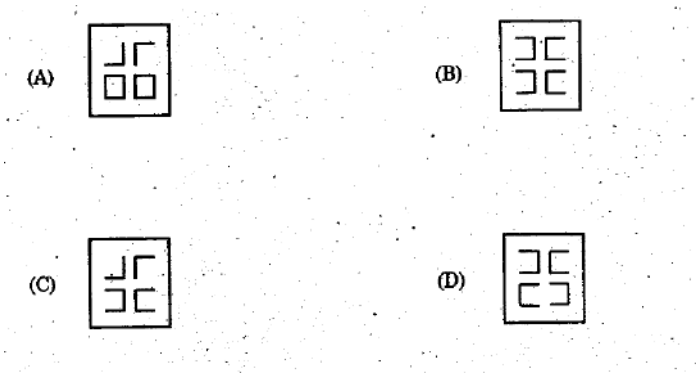


a. 34 b. 36 c. 44 d. 48

Ans: b

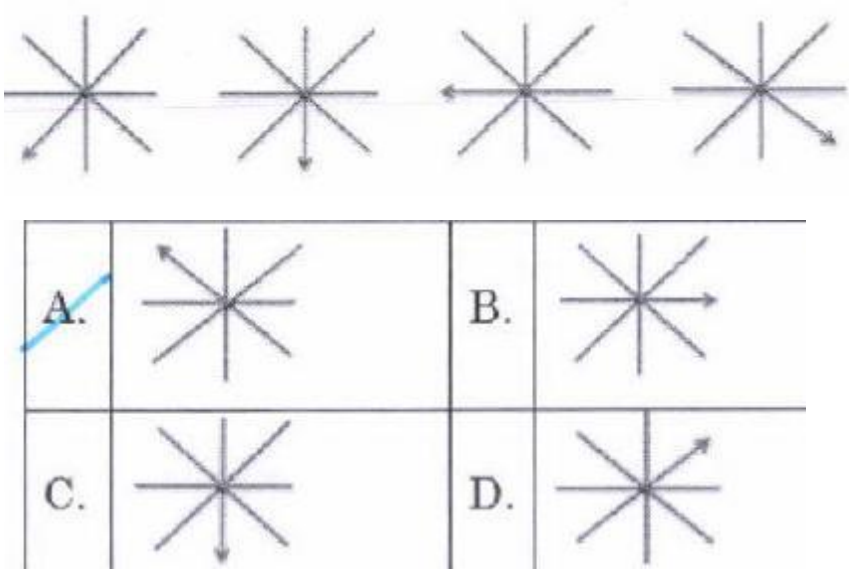
28. Which figure to come in the blank space?





Ans: d

29. Which figure will be next figure in the following series of figures?



1. For the following numbers which is odd man out
   a. 121 b. 132 c. 144 d. 154

   Ans: c

2. The next term of the sequence 2, 5, 10, 17, 28, ...
   a. 40 b. 41 c. 42 d. 43

   Ans: b

3. The next number 3, 9, 27, ...
   a. 45 b. 61 c. 72 d. 81

Ans: d

4. What is the next term of the series 1 + 3+ 7+ 15+ 31+ 63?
   a. 96 b. 121 c. 127 d. 99

   Ans: c

5. The next number in the series 1, 6, 13, 22, 33, ...
   a. 44 b. 46 c. 48 d. 49

   Ans: b

6. The next number in the series is 3, 10, 24, 52, 108, ----
   a. 230 b. 210 c. 220 d. 240

   Ans: c

7. Find the missing number in the following series: 1, 8, 9, 64, 25, ?, 49
   a. 210 b. 212 c. 214 d. 216

   Ans: d

8. Find the missing number in the following series: 7, 25, 61, 121, 211, 337, ?
   a. 418 b. 512 c. 505 d. 480

   Ans: c

9. The missing term in the series 9, 225, 16, 196, 25, 169, ?, 144
   a. 81 b. 121 c. 36 d. 49

   Ans: c

10. Find the next term in the following series: Q1F, S2E, U6D, W21G, ?
    a. Y44B b. Y66B c. Y88B d. Z88B

    Ans: c

11. The next alphabet in the following sequence A D H M .... Is
    a. S b. T c. L d. P

    Ans: a

12. Find the missing letters in the place of ?.SUWY : XVTR :: JLNP : ?
    a. OMKI b. OMIK c. OIMK d. OMIJ

    Ans: a

13. Which letters will come in the order AGI, BHJ, CIK, DJL?
    a. EME b. EKN c. EKM d. ELM

Ans: c

14. If B = 2, BALL = 27 then BOOK = ?
    a. 40 b. 41 c. 42 d. 43

    Ans: d

15. Continue the series ADB, EHF, ILJ,....
    a. APR b. MPN c. BFO d. KOL

    Ans: b

16. Of the following tick the one that does not belong to the rest. What is that?
    a. DHG b. CGF c. BFE d. HKL

    Ans: d

17. Of the following tick the one that does not belong to the rest. What is that?
    a. AIQ b. BJR c. CKS d. DMT

    Ans: d

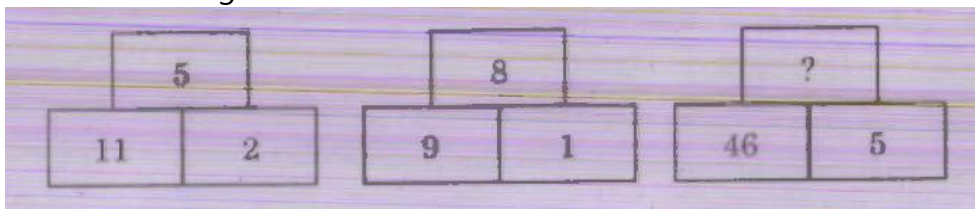
18. Find the missing number

25	7	18
35	13	22
45	8	?

    a. 22 b. 37 c. 28 d. 17

    Ans: b

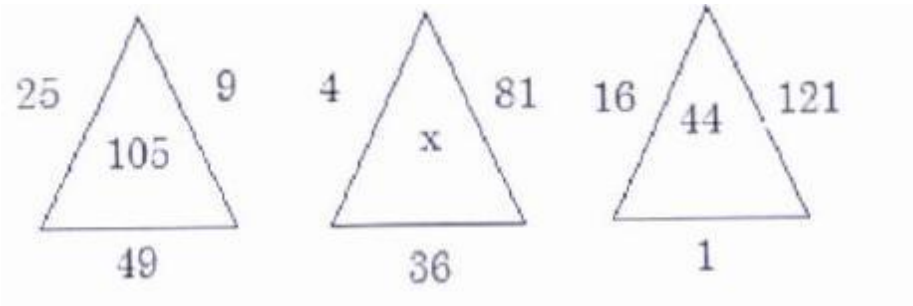
19. Find the missing number



    a. 8 b. 9 c. 10 d. 12

    Ans: b

20. Value of x



a. 108 b. 102 c. 49 d. 64

Ans: a

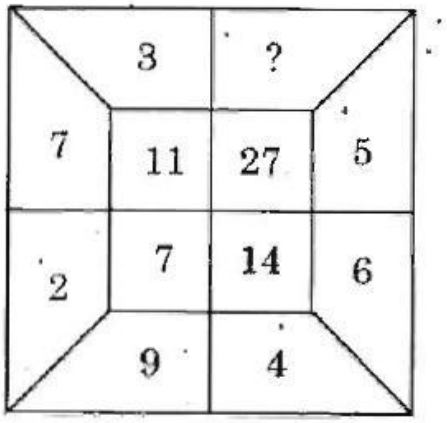
21. Value of x is

2	13	3
6	40	2
5	61	x

a. 4 b. 7 c. 6 d. 5

Ans: c

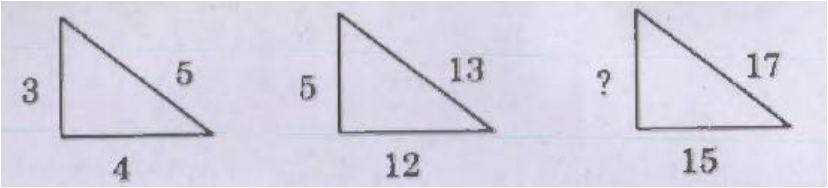
22. Find the missing number



a. 10 b. 9 c. 8 d. 7

Ans: c

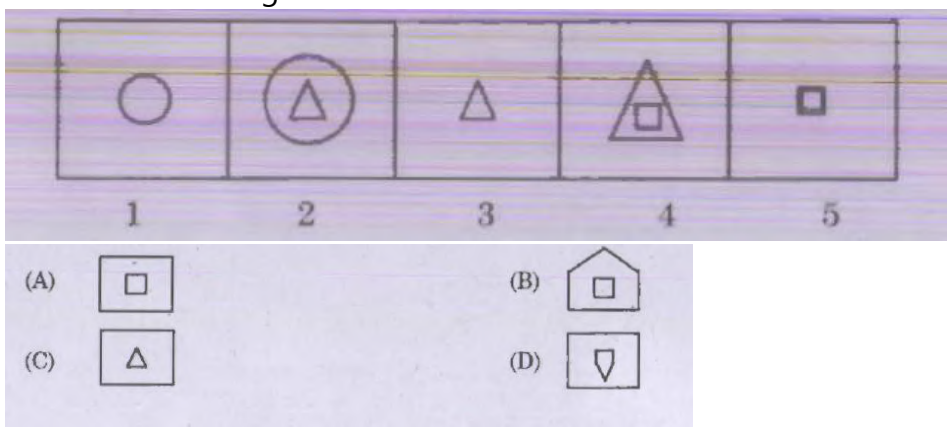
23. Find the missing number?



a. 2 b. 6 c. 8 d. 64

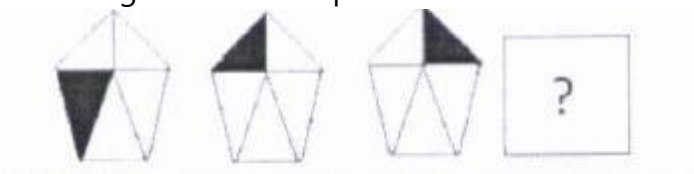
Ans: c

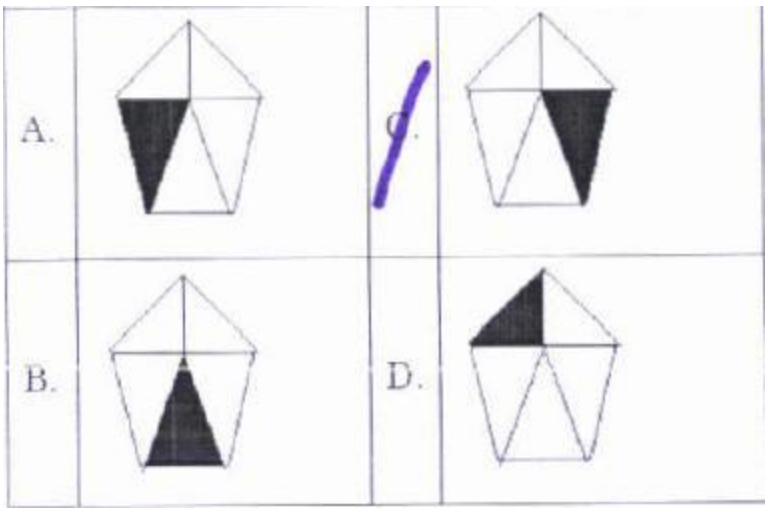
24. What is the next figure?



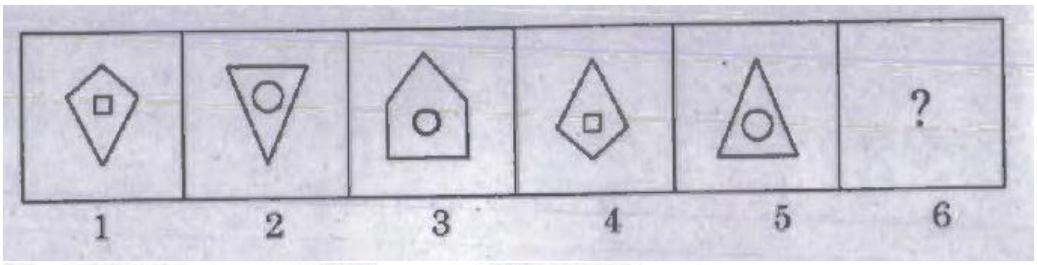
Ans: d

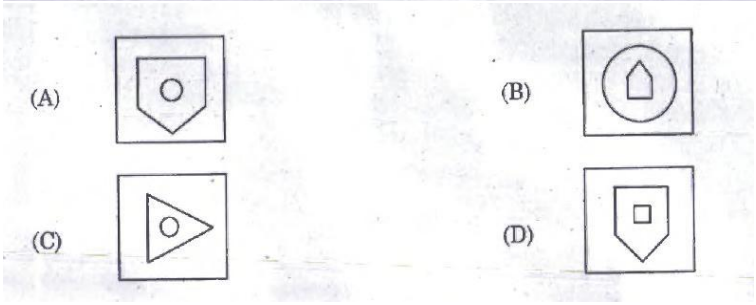
25. Next diagram in the sequence





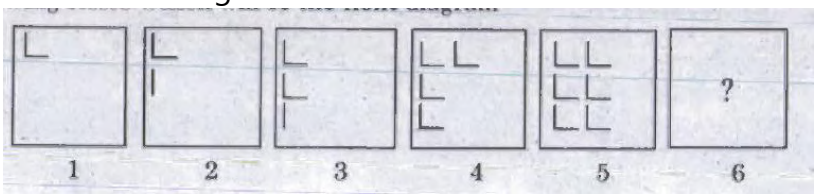
26. What is the next figure

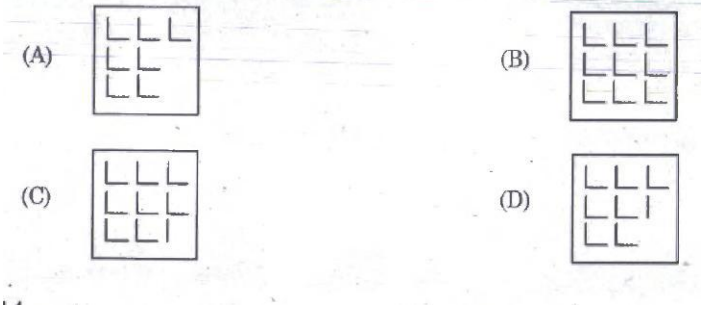




Ans: a

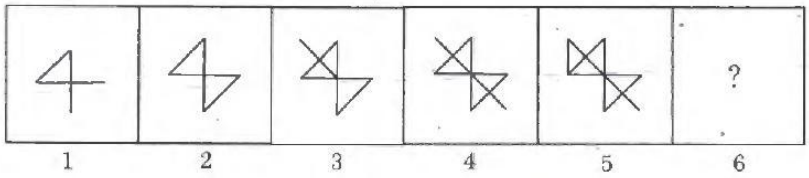
27. Find the next figure

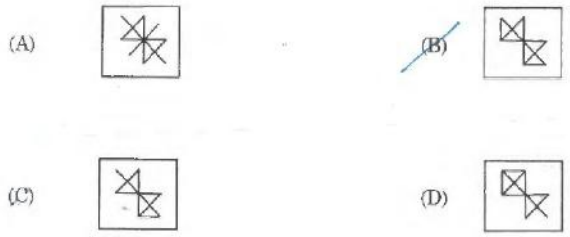




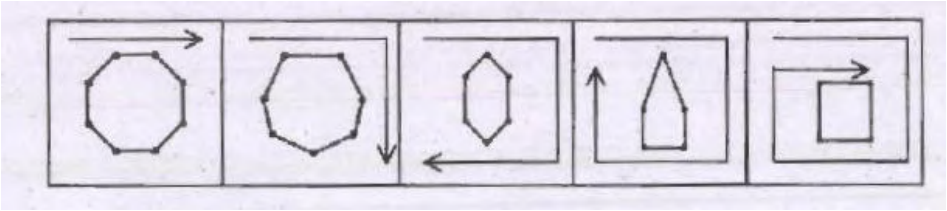
Ans: c

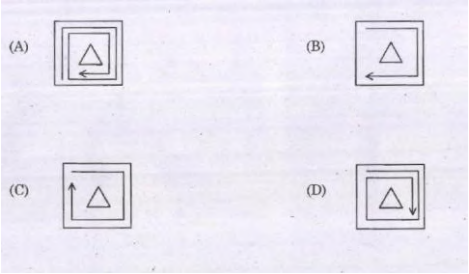
28. Find the next figure





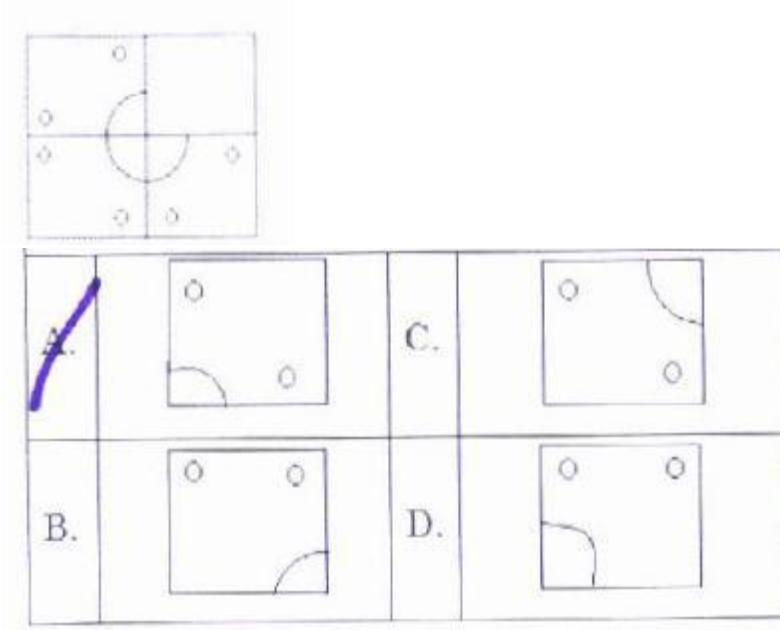
29. Find the next figure



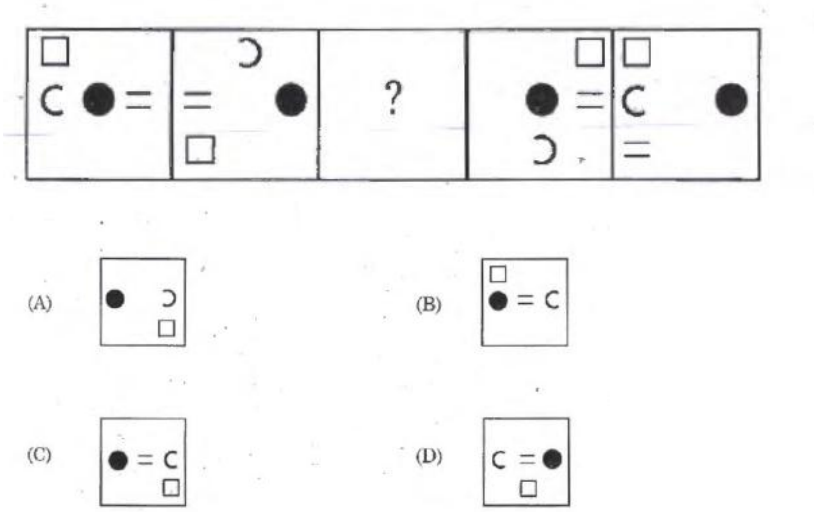


Ans: d

30. Which of the following four figures when placed at the vacant part shall complete the figure?

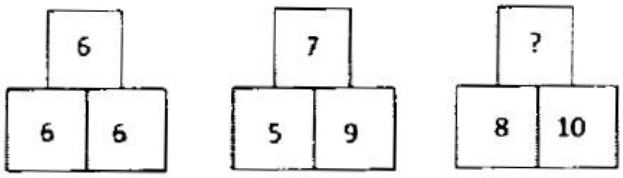


31. Fill in the blank



Ans: c

32. Find the missing number



a. 6 b. 7 c. 4 d. 9

Ans: 9

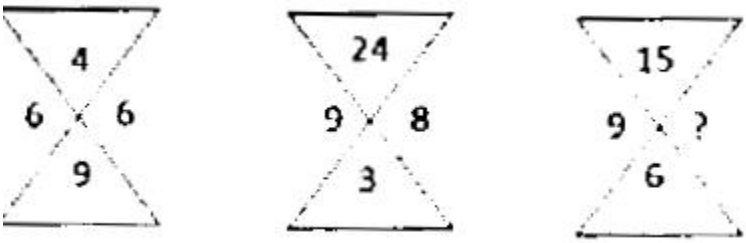
33. Find x

1	2	3
4	5	6
7	8	9
105	x	297

a. 225 b. 93 c. 80 d. 184

Ans: d

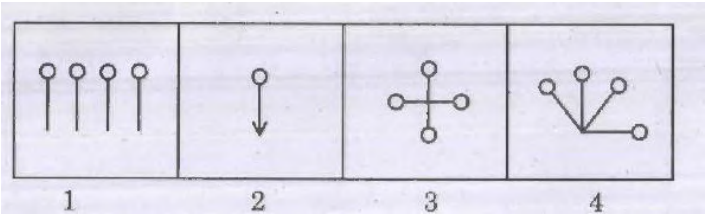
34. Find the missing number



a. 6 b. 8 c. 10 d. 12

Ans: c

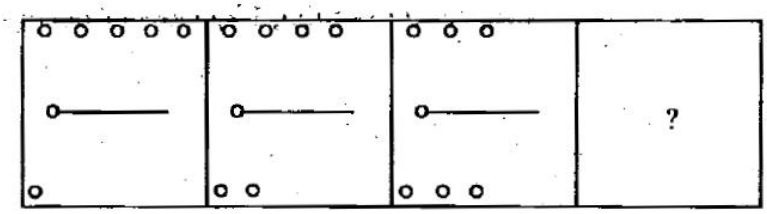
35. In the following diagram which one is different from the other diagrams?



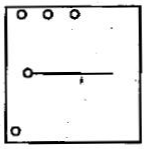
a. 1 b. 2 c. 3 d. 4

Ans: b

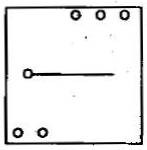
36. What is next?



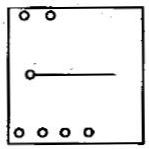
(A)



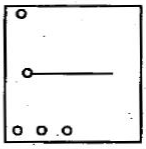
(B)



(C)

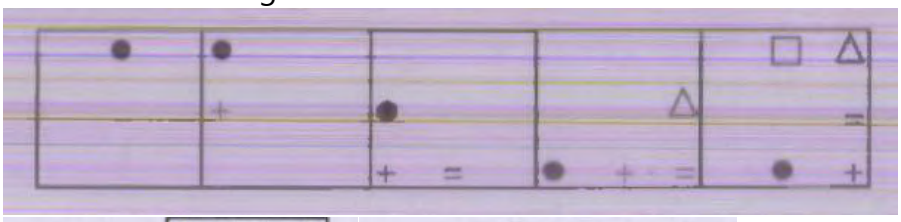


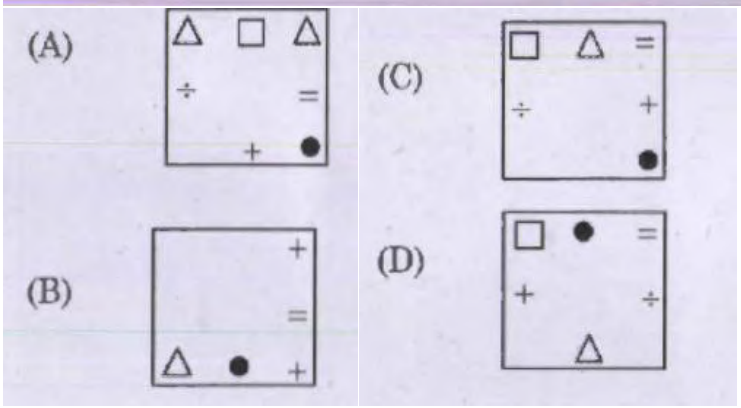
(D)



Ans: c

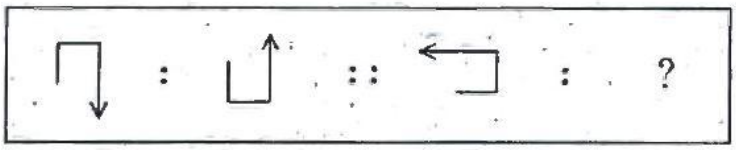
37. What is the next figure?





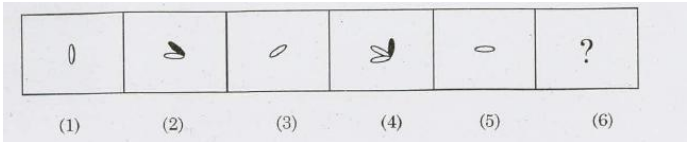
Ans: c

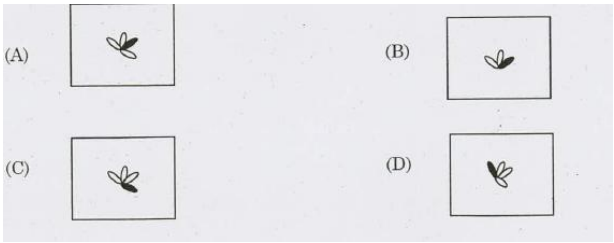
38. Find the next diagram



Ans: b

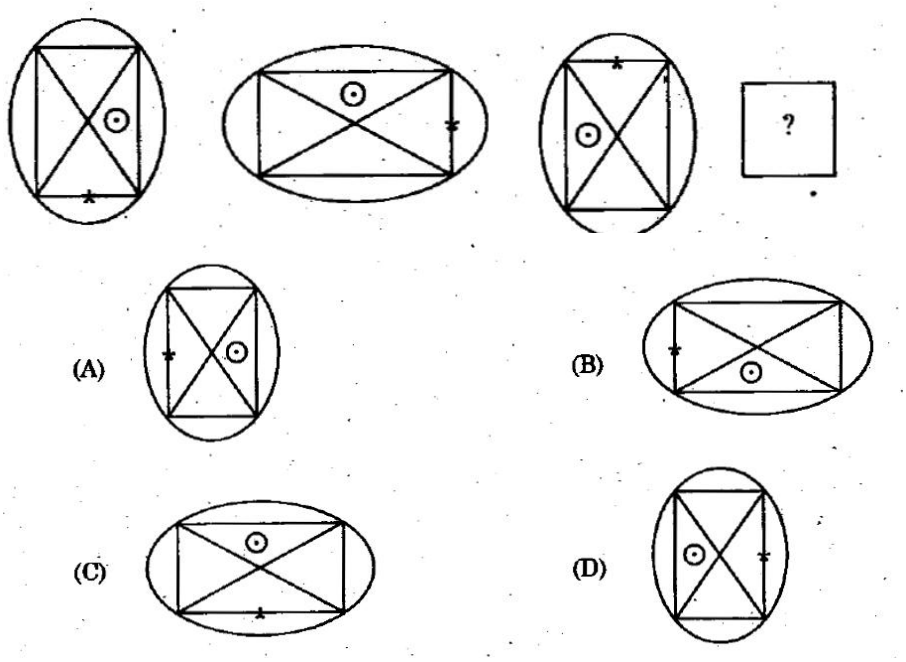
39. Identify the next figure





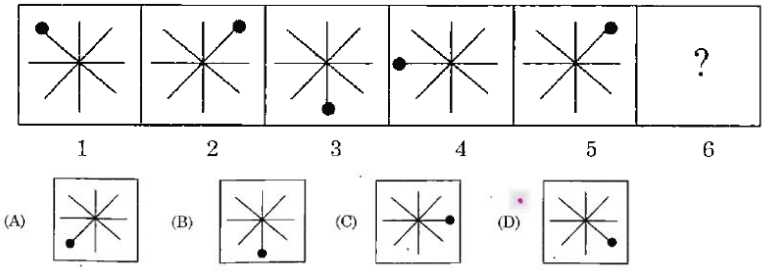
Ans: c

40. The next figure is



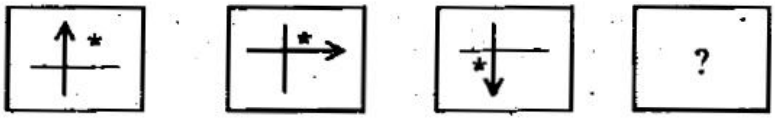
Ans: b

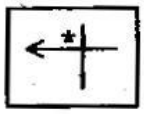
41. What is the next figure in the following sequence?

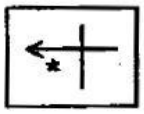


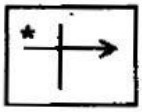
Ans: d

42. The next figure in the following series



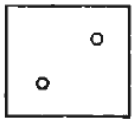
(A) 

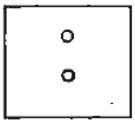
(B) 

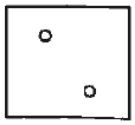
(C) 

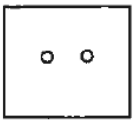
Ans: b

43. Find the next diagram

(A) 

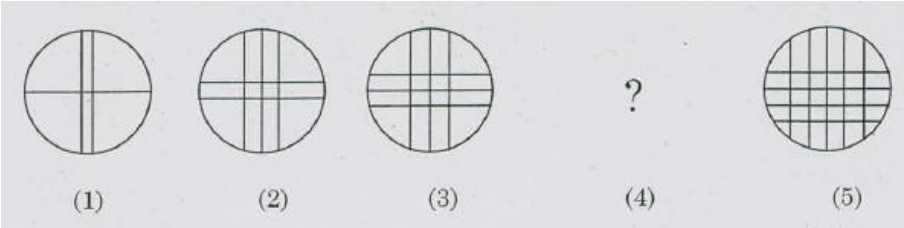
(B) 

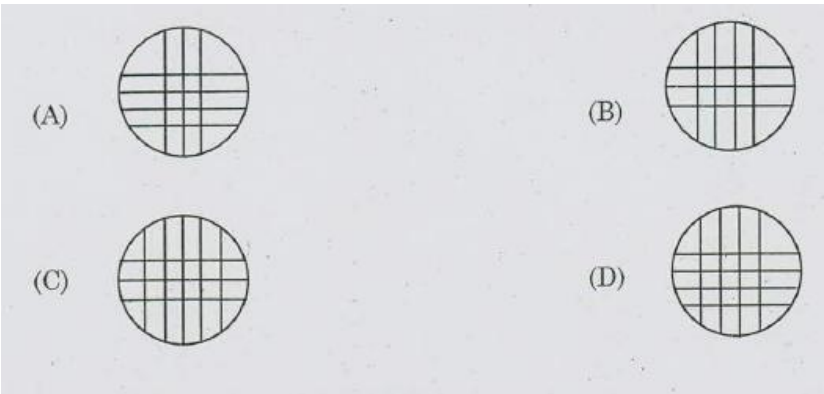
(C) 

(D) 

Ans: a

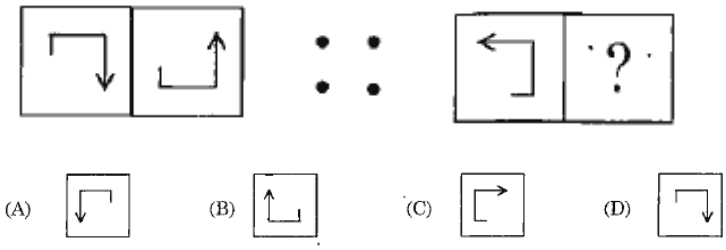
44. Find the missed figure in the sequence





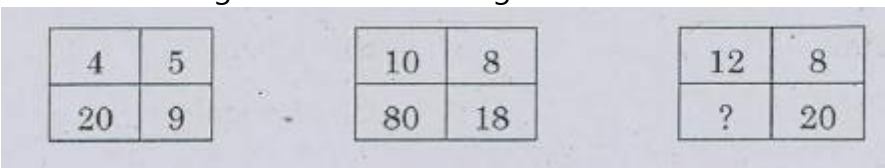
Ans: b

45. Find the missing figure in the place of



Ans: c

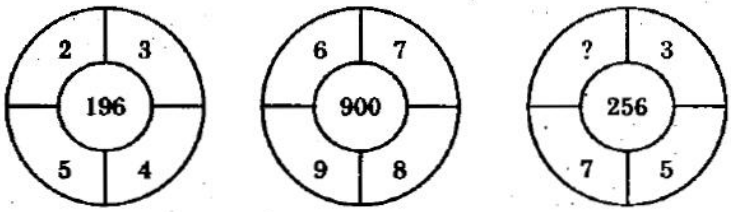
46. Find the missing number in the diagram



a. 25 b. 30 c. 96 d. None of these

Ans: c

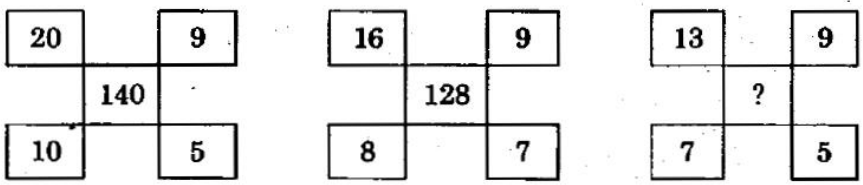
47. Find the missing number



a. 4 b. 5 c. 2 d. 1

Ans: d

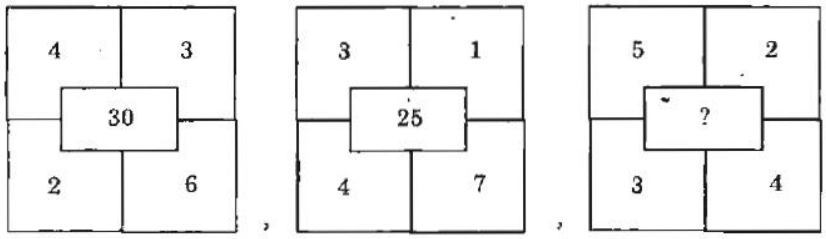
48. Find the missing number



a. 82 b. 96 c. 72 d. 84

Ans: d

49. Find the missing term

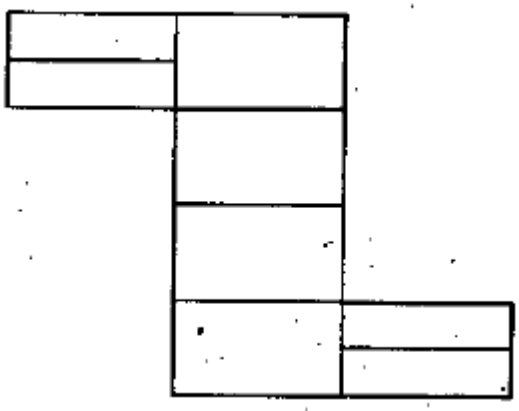


a. 20 b. 14 c. 22 d. 26

Ans: d

<u>Conversion of Information to data - Collection, compilation and presentation of data tables, graphs, diagrams – Analytical interpretation of data.</u>

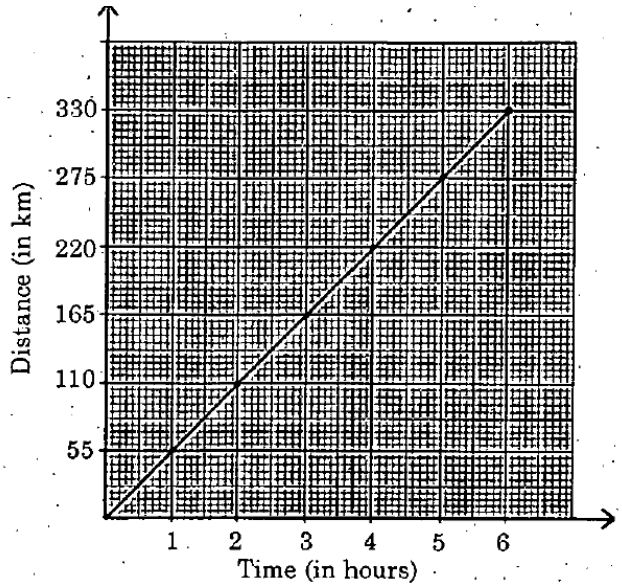
1. Count the number of rectangles in the following figure



a. 8 b. 17 c. 18 d. 20

Ans: c

2. The graph given below shows linear path of a car with uniform speed. The speed of the car is



a. 60 Km/hr b. 50 Km/hr c. 55 Km/hr d. 45 Km/hr

Ans: c

3. In the graph of $y = -3x^2$, what is the value of ordinate when the abscissa is -2?

a. 12 b. -12 c. $\frac{2}{3}$ d. $\frac{-2}{3}$

Ans: b

4. $a_1x + b_1y + c_1 = 0$ and $a_2x + b_2y + c_2 = 0$ when these two lines are parallel?

a. $\frac{a_1}{a_2} = \frac{b_1}{b_2}$ b. $a_1a_2 + b_1b_2 = 0$ c. $a_1b_1 + a_2b_2 = 0$ d. $a_1b_2 + a_2b_1 = 0$

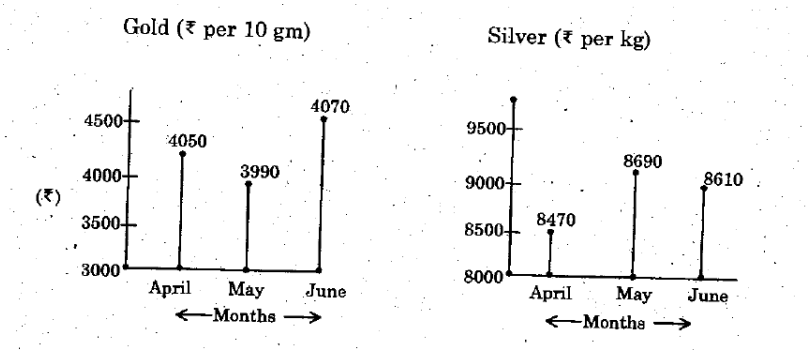
Ans: a

1. How many hours does a school student spend at school and doing homework from the pie diagram given below: Time spent by a school student per day (24 hrs)

a. 6hrs b. 3 hrs c. 9 hrs d. 4hrs

Ans: c

2. Price movements in different months



If X represents the price of 10gm of gold in May and Y represents the price of 1000gms of silver in June, then the relationship between the two prices can best be expressed by the equation

a. Y = 2x + 630 b. x = 2y + 630 c. y/x = 2.23 d. 3x/y = 2.39

Ans: a

3. There are 600 creatures in a zoo as per list below

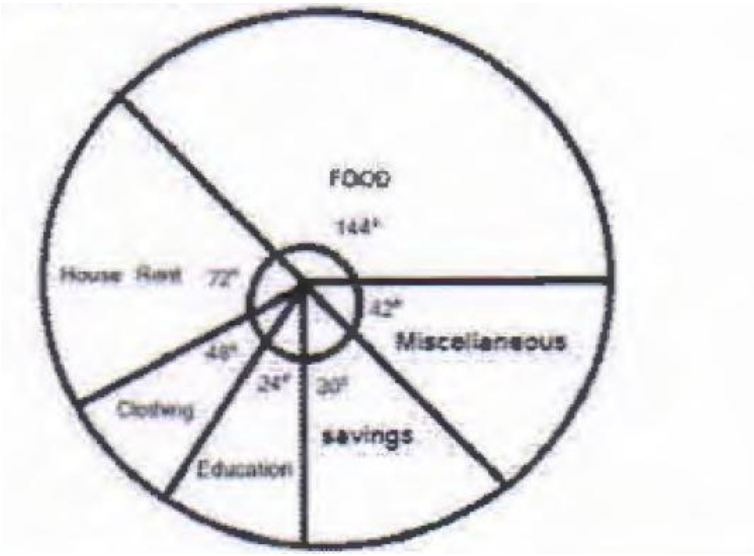
Creatures	Wild animal	Birds	Other land animals	Water animals	Reptiles
Number of Creatures	200	100	160	65	75

To represent this by a pie chart, the central angle of the sector of the circle representing birds is

a. 360° b. 120° c. 60° d. 96°

Ans: c

4. How much money does a family earning Rs.4,800 per month spend on House rent and education and on food alone respectively from the pie diagram below



a. Rs.1920 & Rs.1280 b. Rs.1920 c. Rs.1280 & Rs.1920 d. Rs.3200

Ans: c

5. In which year the production of scooters of all types taken together exceeds the average annual production from the table given below:

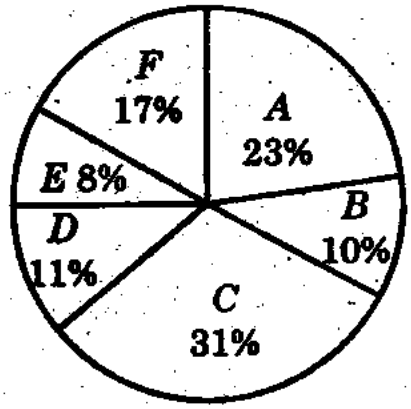
Year / Type	2007	2008	2009	2010	TOTAL
A	16	20	8	21	65
B	14	10	16	12	52
C	16	17	21	13	67
D	10	6	4	20	40
E	19	18	25	14	76
	75	71	74	80	300

Production of scooters by a company

a. 2010 b. 2007 c. 2009 d. 2008

Ans: a

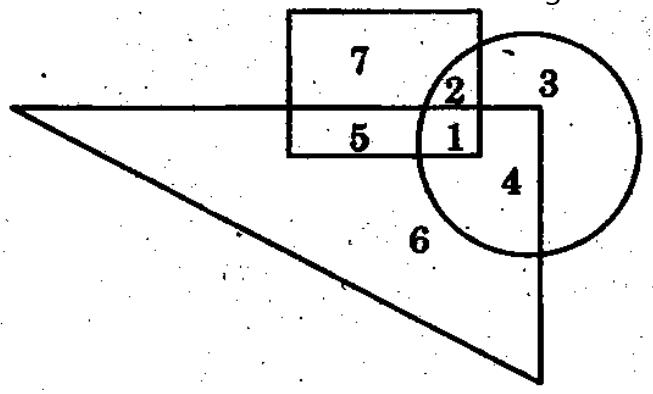
6. Percentage of girls in each of the colleges in shown in the figure. Total number of girls is 1800. What is the number of girls in college D?



a. 188 b. 198 c. 176 d. 164

Ans: b

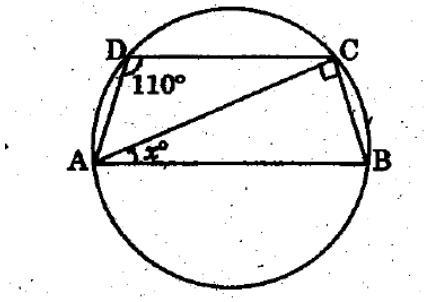
7. The sum of numbers common to two diagrams is



a. 8 b. 9 c. 10 d. 11

Ans: d

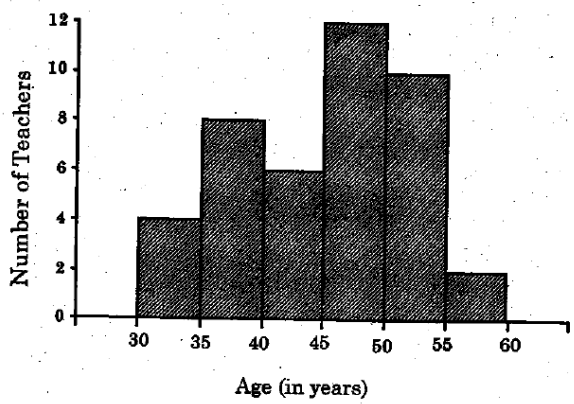
8. From the cyclic quadrilateral find x



a. 90degree b. 60degree c. 30degree d. 20degree

Ans: d

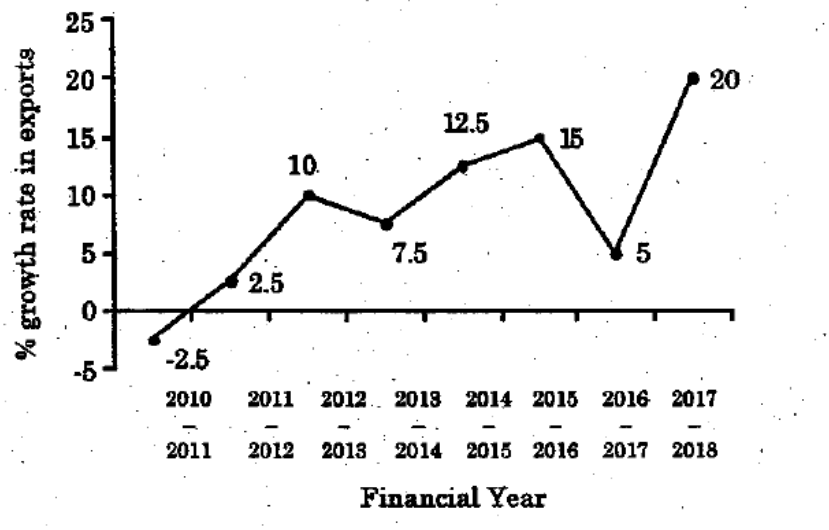
9. The number of teachers less than 50years of age, from the histogram given below is



a. 18 b. 28 c. 29 d. 30

Ans: d

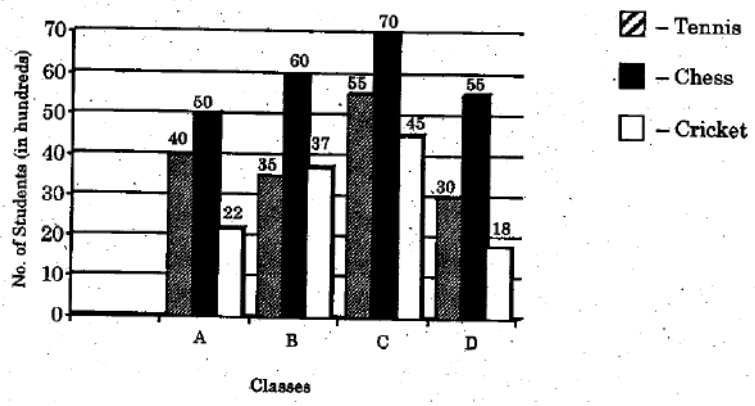
10. From the graph given below, find out during how many years the growth rate was below the average growth rate over the given years



a. 3 b. 4 c. 5 d. 2

Ans: b

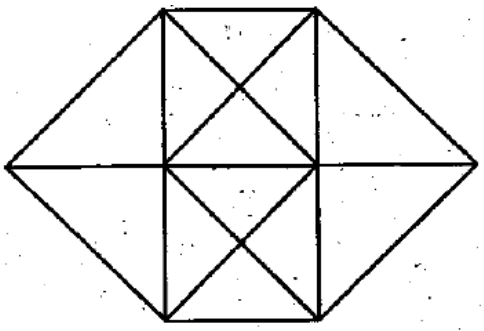
11. The ratio of number of students taking cricket to the number of students taking tennis in class C from the following diagram is



a. 9:11 b. 11:9 c. 9:2 d. 2:9

Ans: a

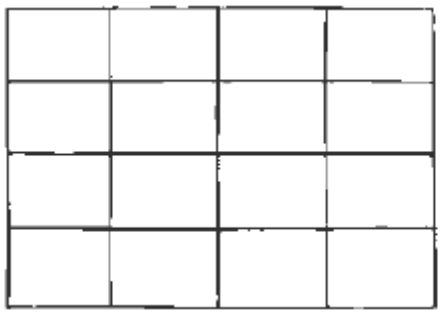
12. The number of triangles in the below figure is



a. 20 b. 24 c. 28 d. 32

Ans: c

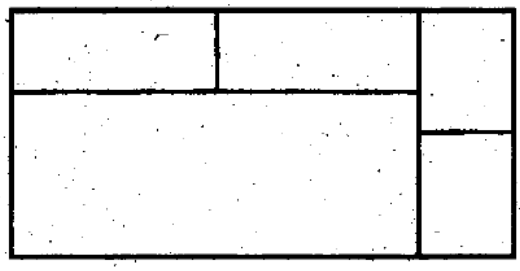
13. How many squares are there in the following figure



a. 16 b. 17 c. 25 d. 30

Ans: d

14. How many rectangles are there in the figure below:

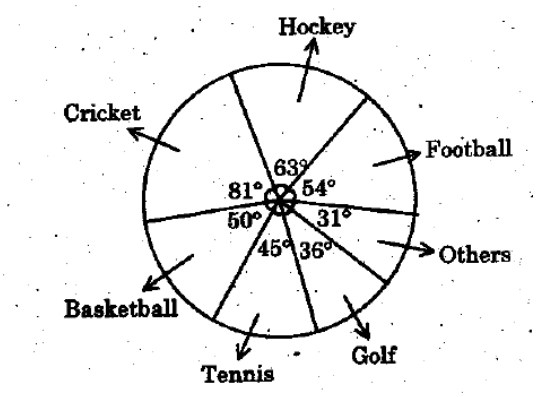


a. 6 b. 7 c. 8 d. 9

Ans: d

15. The circle graph given here shows the spendings of a country on various sports during a particular year. Study the graph and answer the question: If the total

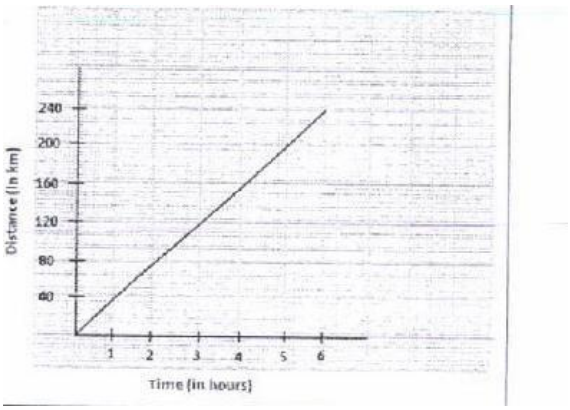
amount spent on sports during the year was Rs.2 crores the amount spent on cricket and hockey together was



a. Rs.8,00,000 b. Rs.80,00,000 c. Rs.120,00,000 d. Rs.160,00,000

Ans: b

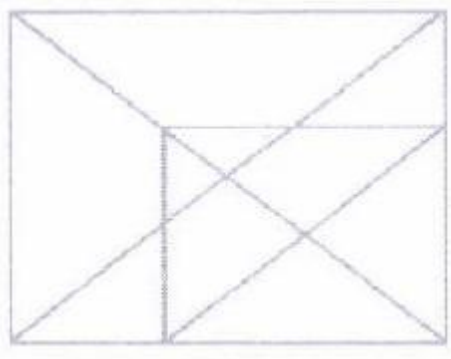
16. The distance travelled by a car in 4.5hours from the graph below is



a. 180Km b. 140Km c. 200Km d. 220Km

Ans: a

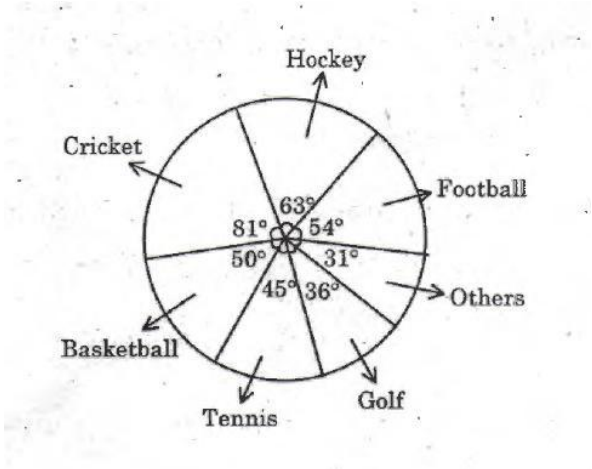
17. How many triangles are there in the figure given below



a. 16 b. 18 c. 19 d. 20

Ans: c

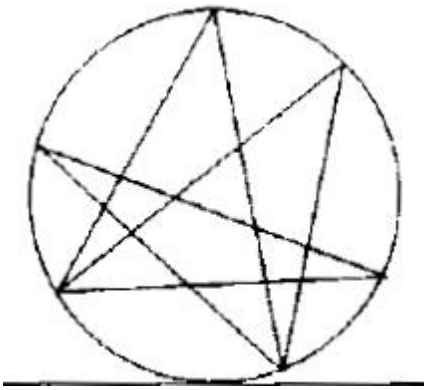
18. The circle graph given here shows the spendings of a country on various sports during a particular year. Study the graph and answer the question.



a. $22\frac{2}{9}\%$ b. 27% c. $33\frac{1}{3}\%$ d. $37\frac{1}{2}\%$

Ans: c

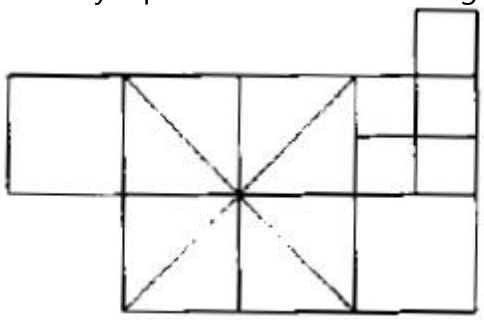
1. How many triangles are there in the given figure



a. 28 b. 26 c. 24 d. 22

Ans: a

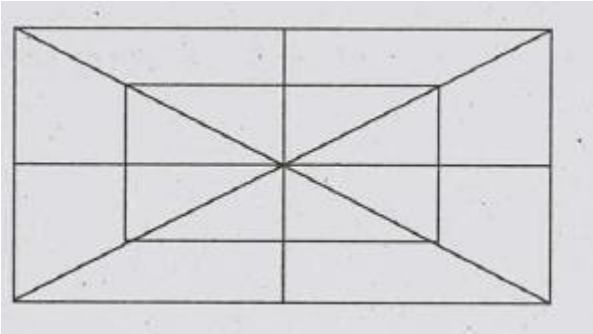
2. How many squares are there in the given figure



a. 9 b. 14 c. 16 d. 18

Ans: b

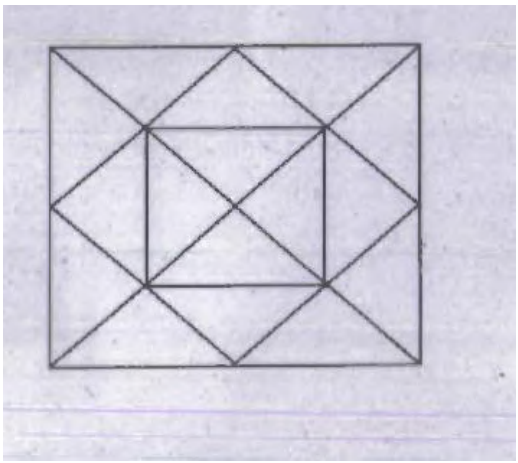
3. How many straight lines are there in the figure below.



a. 10 b. 12 c. 16 d. 8

Ans: b

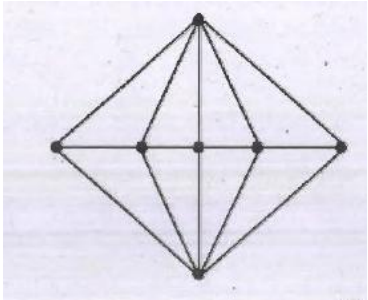
4. How many squares are there in the figure given below



a. 4 b. 5 c. 6 d. 7

Ans: d

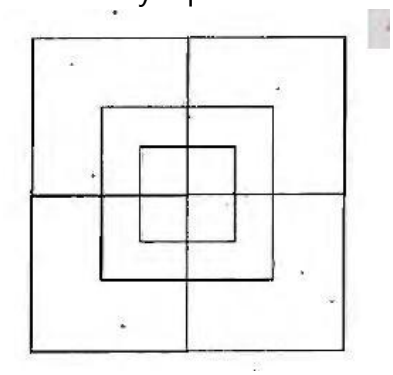
5. How many triangles are there in the following figure?



a. 10 b. 14 c. 20 d. 22

Ans: c

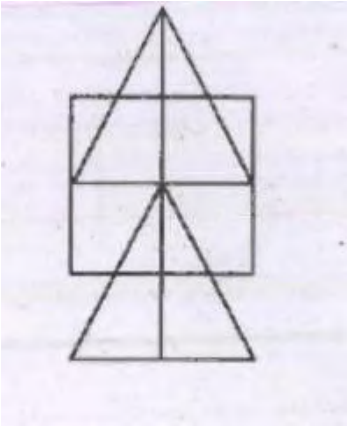
6. How many squares are there in the figure below



a. 16 b. 15 c. 14 d. 12

Ans: b

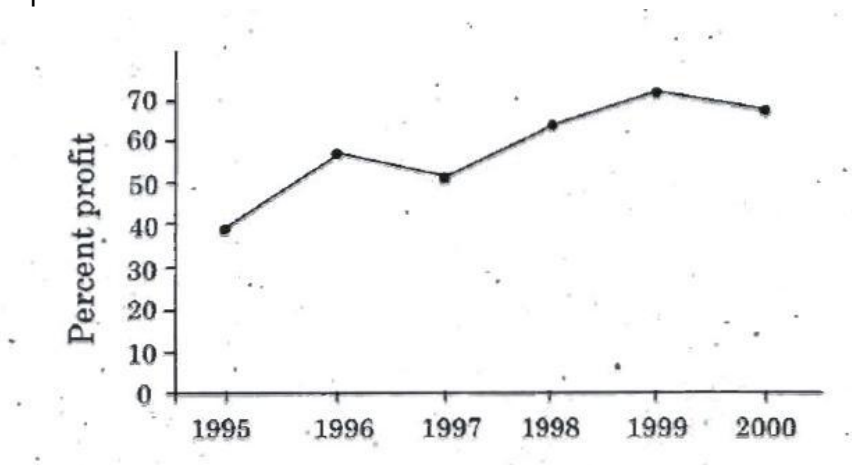
7. Count the number of triangles in the figure



a. 17 b. 13 c. 15 d. 16

Ans: 16

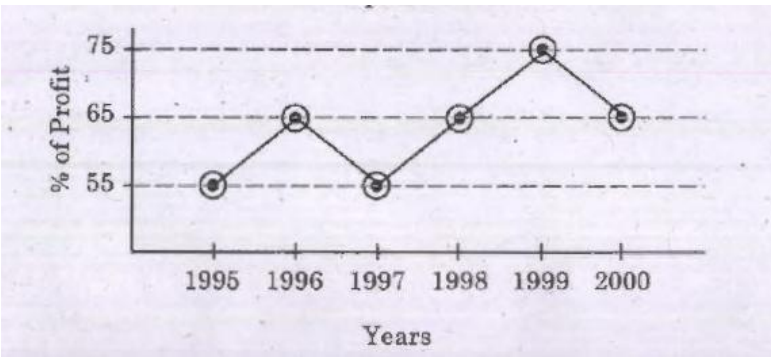
8. From the following graph which of the following years was the ratio of income to expenditure the minimum



a. 1996 b. 1995 c. 1998 d. 2000

Ans: b

9. Percent profit earned by a company over the years is given in the following graph using the formulae % profit $=\frac{Income - expenditure}{expenditure} \times 100$.

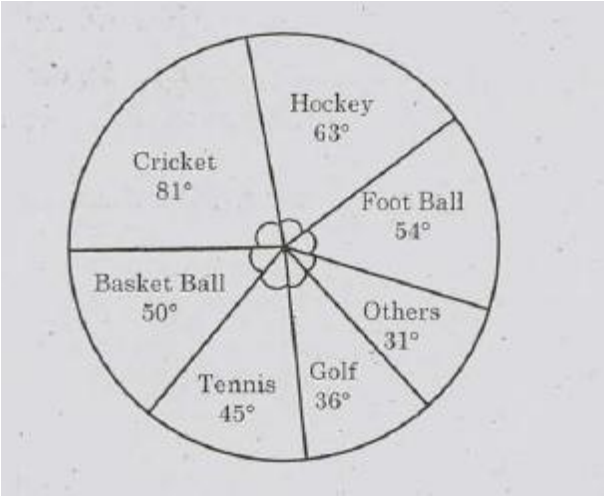


If the income in 1998 was Rs.264 crores, what was the expenditure in 1998?

a. 160 crores b. 145 crores c. 104 crores d. 185 crores

Ans: a

10. The circle graph given here shows the spendings of a country on various sports during a particular year. Study the graph and answer the question.

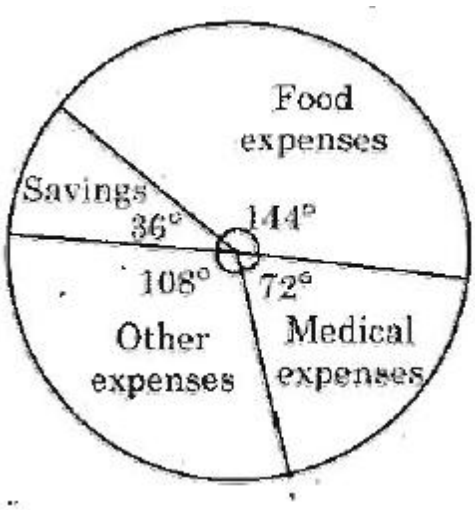


What percent of the total spendings is spent on Tennis?

a. 12.5% b. 22.5% c. 25% d. 45%

Ans: a

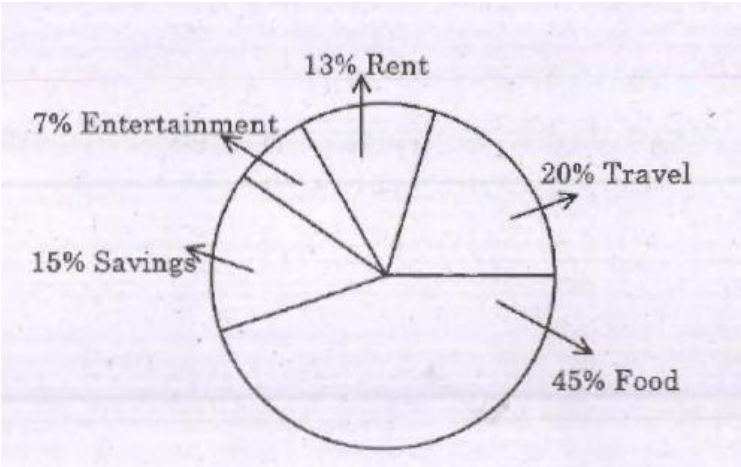
11. Monthly expenditure of a person whose monthly salary is 9000 is as shown in the diagram. The percentage of money spent for medical expenses is



a. 10% b. 20% c. 30% d. 40%

Ans: b

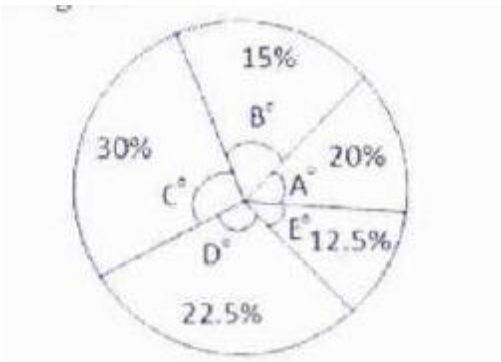
12. A man earns Rs.28000 as monthly salary. His expenditure and savings are given in the diagram. How much he spent every month other than food as expenditure.



a. 11200 b. 11300 c. 15400 d. 12500

Ans: a

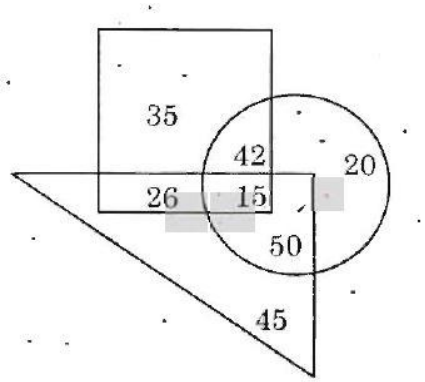
13. From the pie diagram given below find the central angle E degree



a. 25 degree b. 45 degree c. 50 degree d. 60 degree

Ans: b

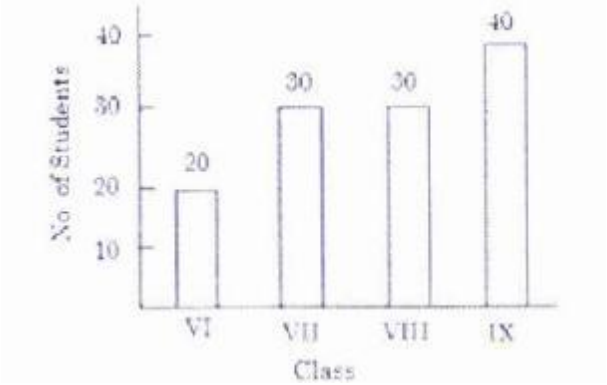
14. The sum of numbers common to two diagrams is



a. 118 b. 110 c. 108 d. 130

Ans: a

15. The ratio of the number of students in the class VII to class IX is



a. 2:3 b. 1:1 c. 3:4 d. 1:2

Ans: c

Simplification

1. If $\frac{1}{3} + \frac{1}{2} + \frac{1}{x} = 4$ then x =?
   a. $\frac{6}{19}$ b. $\frac{8}{19}$ c. $\frac{12}{17}$ d. $\frac{9}{10}$

   Ans: a

2. If $\frac{a}{b} = \frac{9}{5}$ then $\frac{a+b}{a-b} = ?$
   a. 3/7 b. 7/3 c. 2/7 d. 7/2

   Ans: d

3. Simplify: $20\frac{1}{2} + 30\frac{1}{3} - 15\frac{1}{6} = ?$
   a. $34\frac{1}{6}$ b. $35\frac{2}{3}$ c. $35\frac{5}{6}$ d. $45\frac{1}{3}$

   Ans: b (repeated)

4. If $3x = 4y$ then find $\frac{4x+5y}{14x+3y}$
   a. $\frac{31}{65}$ b. $\frac{65}{31}$ c. $\frac{5}{14}$ d. $\frac{14}{5}$

   Ans: a

5. If $x * y = x^2 + y^2 - xy$ then the value of $9 * 11$ is
   a. 103 b. 112 c. 127 d. 200

   Ans: a

6. $\frac{3}{7}$ of $\frac{497}{249}$ of ? = 639
   a. 474 b. 774 c. 477 d. 747

   Ans: d

7. Simplify: 4 – [6 – {12 –(10-8+6)}]
   a. 4 b. 2 c. 6 d. 8

   Ans: b

8. $2\frac{3}{4} \div 2\frac{2}{3} \div 1\frac{1}{12} = ?$
   a. $\frac{33}{104}$ b. $\frac{66}{104}$ c. $\frac{99}{104}$ d. 1

   Ans: c

9. $\frac{(835+378)^2+(835-378)^2}{(835\times835)+(378\times378)}$ is

a. 4 b. 1 c. 2 d. 5

Ans: 2

10. If $\frac{a}{b} = \frac{4}{5}$ and $\frac{b}{c} = \frac{15}{16}$ then $\frac{c^2-a^2}{c^2+a^2}$ is

a. $\frac{1}{\sqrt{7}}$ b. $\frac{2}{\sqrt{3}}$ c. $\frac{7}{25}$ d. $\frac{5}{7}$

Ans: c (repeated)

11. If $\frac{\overline{x}}{169} = \frac{54}{39}$ the value of x is

a. 108 b. 324 c. 2916 d. 4800

Ans: b

12. If $\frac{x}{2y} = \frac{6}{7}$ then the value of $\frac{x-y}{x+y} + \frac{14}{19}$ is

a. -1 b. 1 c. $\frac{2}{7}$ d. $1\frac{1}{18}$

Ans: b

13. $\frac{180\times15-12\times20}{140\times8+2\times55} = ?$

a. $\frac{1}{8}$ b. $\frac{4}{9}$ c. 2 d. 5

Ans: c

14. The value of $1 + \cfrac{1}{1+\cfrac{1}{1+\cfrac{1}{1+\cfrac{2}{3}}}}$

a. $\frac{21}{13}$ b. $\frac{17}{3}$ c. $\frac{34}{21}$ d. $\frac{8}{5}$

Ans: c

15. The value of 5005 – 5000 ÷ 10 is

a. 5000 b. 4965 c. 4505 d. 4500

Ans: c

16. The value of $999\frac{995}{999} \times 999$ is

a. 998996 b. 99999 c. 999 d. 5997

Ans: a

17. If 3 – [1.6 – {3.2 – (3.2 + 2.25 ÷ x)}] = 0.65 then the value of x is

a. 0.3 b. 0.7 c. 3 d. 7

Ans: c

18. If $\frac{a}{3} = \frac{b}{4} = \frac{c}{7}$ then the value of $\frac{a+b+c}{c}$ is

a. $\frac{1}{\sqrt{7}}$ b. $\sqrt{2}$ c. 2 d. 7

Ans: c

19. Find the missing numbers $\frac{1}{4} = \frac{x}{20} = \frac{3}{y}$

a. x = 5, y = 12 b. x = 5, y = 5 c. x = 12, y = 5 d. x = 12, y = 12

Ans: a

20. Simplify: 5 + {9 – (6 + 2 – $(\overline{3 - 2})$)}

a. 3 b. 5 c. 7 d. 9

Ans: c

21. If P = 9 then the value of P (P^2 + 3P + 3) is equal to

a. 9 b. 99 c. 999 d. 9999

Ans: c

22. If x + 1/x = 5 then, find the value of $x^3 + \frac{1}{x^3}$

a. 110 b. 115 c. 125 d. 130

Ans: a

23. If $\frac{4}{x} + \frac{6}{y} = \frac{18}{xy}$ and $\frac{4}{x} + \frac{9}{y} = \frac{63}{xy}$ then, what is the value of x-y? (Here x≠ 0 and y≠ 0)

a. -3 b. -33 c. 33 d. 3

Ans: c

24. Simplify in lowest form: $\frac{x^4+x^2+1}{x^2+x+1}$

a. $x^2 + x + 1$ b. $x^2 - x + 1$ c. $x^2 - 2x + 1$ d. $x^2 - 2x - 1$

Ans: b

25. Find the value of $1 + \frac{1}{1+\frac{1}{1+\frac{1}{9}}}$

a. 10/9 b. 29/19 c. 19/9 d. 29/10

Ans: b

26. If a + b = 7 and a – b = 4 then find the value of ab.
    a. 55/4 b. 65/2 c. 33/4 d. 1

    Ans: c

27. If $\frac{x}{y} = \frac{1}{3}$ then, find the value of $\frac{x^2+y^2}{x^2-y^2}$
    a. 5/4 b. -5/4 c. -5/3 d. -10/9

    Ans: b

28. Find the value of $(0.98)^3 + 3(0.98)^2(0.02) + 3(0.98)(0.02)^2 + (0.02)^3$
    a. 2 b. 1 c. 0 d. 3

    Ans: b

29. If $ax^2 + bx + c = 0$ has equal roots then c is equal to
    a. $\frac{b^2}{2a}$ b. $\frac{b^2}{4a}$ c. $\frac{-b^2}{2a}$ d. $\frac{-b^2}{4a}$

    Ans: b

30. Divide $\frac{x^2-25}{x+3}$ by $\frac{x+5}{x^2-9}$ is equal to
    a. (x-5) (x+3) b. (x+5) (x-3) c. (x+5) (x+3) d. (x-5) (x-3)

    Ans: d

31. If $\sqrt{24-10a} = 3-4a, 3-4a > 0$ what is the value of a?
    a. ¾ b. -5/8 c. 6/7 d. 3/2

    Ans: b

32. If $x = 1 + \sqrt{2}$ then the value of $(x - \frac{1}{x})^2$ is
    a. 2 b. $\sqrt{2}$ c. 4 d. 8

    Ans: c

33. $(-1\frac{2}{7}) + (-3\frac{5}{7}) + (6\frac{4}{7})$ is
    a. 3/7 b. 5/7 c. 11/7 d. 19/7

    Ans: c

34. If 3(t-3) = 5(2t+1) then t=?
    a. -2 b. 2 c. -3 d. 3

    Ans: a

35. The value of $\frac{1.75\times1.75+2\times1.75\times0.75+0.75\times0.75}{1.75\times1.75-0.75\times0.75}$

a. 3.5 b. 6.25 c. 1 d. 2.5

Ans: d

36. The value of $16^3 + 7^3 - 23^3$ is

a. -7728 b. 7028 c. 7728 d. -7718

Ans: a

37. If $(\frac{7}{12})^{-4} \times (\frac{7}{12})^{3x} = (\frac{7}{12})^{5}$ then the value of x is

a. -1 b. 1 c. 2 d. 3

Ans: d

38. Simplify $5\frac{1}{4} + 4\frac{3}{4} + 7\frac{5}{8} + 6\frac{7}{8} \div 11\frac{3}{4}$

a. 98/47 b. 108/49 c. 98/45 d. 96/47

Ans: a

39. Simplify: $5\frac{1}{2} + \frac{3}{4}\ of\ \frac{8}{9}$

a. 7 b. $\frac{25}{9}$ c. $\frac{37}{6}$ d. $\frac{16}{15}$

Ans: c

40. Find the value of $\sqrt[3]{-67-\sqrt[3]{-25+\sqrt[3]{-8}}}$

a. -4 b. 4 c. 3 d. -3

Ans: a

41. Find the value of $\sqrt{77-\sqrt{150+\sqrt{366-\sqrt{25}}}}$

a. 13 b. 16 c. 19 d. 8

Ans: d

42. The value of $\sqrt[x]{\sqrt[y]{\sqrt[z]{a}}}$ is

a. $\sqrt[y]{a^{xz}}$ b. $\sqrt[xy]{a^{z}}$ c. $\sqrt[xyz]{a}$ d. $\sqrt[x]{a^{yz}}$

Ans: c

43. What is the square root of 280 $x^{12}y^{6}z^{14}$?

a. $17\ x^6y^3z^7$ b. $13\ x^3y^2z^3$ c. $15\ x^2y^2z^5$ d. $23\ x^4y^2z^2$

Ans: a

44. The value of $\sqrt[3]{8x^3 \times 27x^3 \times 64x^3}$

a. $20x^3$ b. $24x^3$ c. $28x^3$ d. $32x^3$

Ans: b

45. The value of $\sqrt{1+\sqrt{1+\sqrt{5+\sqrt{14+\sqrt{1+\sqrt{9}}}}}}$ is

a. 3 b. 2 c. $\sqrt{3}$ d. $\sqrt{2}$

Ans: c

46. Evaluate: $\dfrac{15}{\sqrt{10}+\sqrt{20}+\sqrt{40}-\sqrt{5}-\sqrt{80}}$

a. $\sqrt{10}-\sqrt{5}$ b. $\sqrt{10}+\sqrt{5}$ c. $\sqrt{5}-\sqrt{10}$ d. $5\sqrt{10}$

Ans: a

47. The value of $\sqrt{a^{-1}b} \times \sqrt{b^{-1}c} \times \sqrt{c^{-1}a}$ *is*

a. abc b. $\sqrt{abc}$ c. 1/abc d. 1

Ans: 1

48. The value of $\sqrt{248+\sqrt{52+\sqrt{144}}}$ is

a. 14 b. 16 c. 18 d. 20

Ans: b

49. The value of $\sqrt{609+\sqrt{248+\sqrt{60+\sqrt{7+\sqrt{81}}}}}$

a. 20 b. 25 c. 16 d. 9

Ans: b

50. Simplify: $\sqrt[3]{128} + \sqrt[3]{64}$

a. $\sqrt[3]{4}$ b. $\sqrt[3]{8}$ c. $\sqrt[3]{6}$ d. $\sqrt[3]{2}$

Ans: d

1. If $a^x = b,\ b^y = c,\ c^z = a$ then what is the value of xyz?
   a. 3 b. 4 c. 9 d. 1

   Ans: 1

2. $964^2 - 36^2 = ?$
   a. 982000 b. 892000 c. 928000 d. 829000

   Ans: c

3. Simplify $87 \times 96 \div 4.8$
   a. 1740 b. 1500 c. 1760 d. 1670

   Ans: a

4. If $x + \frac{1}{x} = 2\sqrt{2}$, then $x + \frac{1}{x}$ is
   a. $\sqrt{2}$ b. $2\sqrt{2}$ c. 2 d. 4

   Ans: c

5. If $\frac{x}{y} = \frac{3}{4}$, then the value of $\frac{6}{7} + \frac{y-x}{y+x}$ equals
   a. 5/7 b. $1\frac{1}{7}$ c. 1 d. 2

   Ans: c

6. If $x + \frac{1}{x} = 2$, find the value of $x^3 + \frac{1}{x^3}$
   a. 1 b. 2 c. 3 d. 4

   Ans: b

7. Simplify $(0.111)^3 + (0.222)^3 - (0.333)^3 + (0.333)^2(0.222)$
   a. 0.1 b. 0.2 c. 0.3 d. 0

   Ans: d

8. $\frac{11^2 - 4^2 \times 2}{4 \times 2} = ?$
   a. 11 b. $1\frac{1}{4}$ c. $11\frac{1}{8}$ d. 121

   Ans: c

9. Evaluate: (8-1) (8-2) ..... (8-9) (8-10)

a. 2 b. 4 c. 5 d. 0

Ans: d

10. If $4 \div 3 = 6427$, $8 \div 7 = 6449$, $3 \div 1 = 271$, then $4 \div 3 = ?$
a. 369 b. 2169 c. 21627 d. 2

Ans: a

11. Simplify: $\frac{0.728 \times 0.728 - 0.272 \times 0.272}{0.456}$
a. 0.456 b. 1 c. 0.728 d. 0.272

Ans: b

12. If $\frac{x}{y} = \frac{3}{5}$ then $\frac{5x+2y}{5x-2y}$ is equal to
a. 3 b. 5 c. 2/5 d. 5/2

Ans: b

13. Find the value of $\frac{1.2 \times 1.2 \times 1.2 - 0.2 \times 0.2 \times 0.2}{1.2 \times 1.2 + 1.2 \times 0.2 + 0.2 \times 0.2}$
a. 1.2 b. 1 c. 0.2 d. 1.4

Ans: b

14. Simplify: $(x^{(b+c)})^{(b-c)} . (x^{(c+a)})^{(c-a)} . (x^{(a+b)})^{(a-b)} = ?$
a. 0 b. 1 c. 2 d. 3

Ans: b

15. Find the value of $(999\frac{1}{7} + 999\frac{2}{7} + 999\frac{3}{7} + 999\frac{4}{7} + 999\frac{5}{7} + 999\frac{6}{7})$
a. 2997 b. 5979 c. 5997 d. 5994

Ans: c

16. Find x in $3^x \times 27^{2x} = 9^{x+5}$
a. 1 b. 2 c. 3 d. 4

Ans: b

17. $\frac{0.07 \times 0.07 \times 0.07 - 0.05 \times 0.05 \times 0.05}{0.07 \times 0.07 + 0.07 \times 0.05 + 0.05 \times 0.05} = ?$

a. 0.002 b. 0.02 c. 0.2 d. 0.0002

Ans: b

18. The value of x in the equation (925)2 – (225)2 = 1000x is

a. 805 b. 805000 c. 1850 d. 1.85

Ans: a

19. $\overline{x} + \sqrt{y} = 17$ and $\sqrt{x} - \sqrt{y} = 1$ then $\sqrt{xy} = ?$

a. 64 b. 72 c. 96 d. 98

Ans: b

20. If $\sqrt{3} = 1.732$ find the value of $\sqrt{192} - \frac{1}{2}\sqrt{48} - \sqrt{75}$

a. $3\sqrt{3}$ b. 1.732 c. -1.732 d. $8\sqrt{3}$

Ans: b

21. What is the value of $\sqrt{2 + \sqrt{2 + \sqrt{2 + \sqrt{2 + \cdots \ldots \ldots}}}}$

a. 1 b. 2 c. 3 d. ∞

Ans: b

22. If $a = \frac{\sqrt{3}+1}{\sqrt{3}-1}$ and $b = \frac{\sqrt{3}-1}{\sqrt{3}+1}$ then the value of $\frac{a^2+ab+b^2}{a^2-ab+b^2}$ is

a. 11/12 b. 13/15 c. 15/13 d. 12/11

Ans: c

23. $$\frac{1}{\sqrt{9}+\sqrt{8}} + \frac{1}{\sqrt{8}+\sqrt{7}} + \frac{1}{\sqrt{7}+\sqrt{6}} + \frac{1}{\sqrt{6}+\sqrt{5}} + \frac{1}{\sqrt{5}+\sqrt{4}} =$$

a. 1 b. 2 c. -1 d. 3

Ans: a

24. Which is greater? $\sqrt[3]{2}, \sqrt[4]{2}, \sqrt[3]{3}$ and $\sqrt[4]{4}$

a. $\sqrt[3]{2}$ b. $\sqrt[4]{2}$ c. $\sqrt[3]{3}$ d. $\sqrt[4]{4}$

Ans: c

25. Find the value of $\sqrt{248 + \sqrt{52 + \sqrt{144}}}$

a. 14 b. 16 c. 16.6 d. 18.8

Ans: b

26. Find the value of $\sqrt{41-\sqrt{21+\sqrt{19-\sqrt{9}}}}$

a. 7 b. 5 c. 6 d. 9

Ans: c

1. The value of $\frac{225\times225\times225+275\times275\times275}{225\times225-225\times275+275\times275}$ is

   a. 500 b. 600 c. 650 d. 50

   Ans: a

2. If $a^b = 169$ then $(a-1)^{b+1} =$

   a. 1278 b. 1728 c. 1827 d. 2781

   Ans: b

3. $2^0 + 4^{-1}) \times 2^2$ is equal to

   a. 2 b. 5 c. 4 d. 3

   Ans: b

4. If $x = \sqrt{2} - \sqrt{3}$ then $\sqrt{2}$ is

   a. ½(x + 1/x) b. ½ (x – 1/x) c. ½ (1/x – x) d. x-1/x

   Ans: b

5. Value of $\frac{\frac{1}{3}\div\frac{1}{3} of \frac{1}{3}}{\frac{1}{3} of \frac{1}{3}\div\frac{1}{3}}$ = ?

   a. 1 b. 3 c. 1/3 d. 9

   Ans: d

6. $5-2(4-5)^{-1}]^2 =$

   a. 7 b. 49 c. 8 d. 64

   Ans: b

7. Find the value of $\left(\frac{456\times456-123\times123}{579}\right.$

   a. 333 b. 579 c. 456 d. 123

   Ans: a

8. The value of $\frac{2.48\times2.48-1.52\times1.52}{0.96}$ is

a. 4.0 b. 4.4 c. 1.4 d. 1.0

Ans: a

9. If x + y = 12, x – y = $2\sqrt{3}$. Find the value of xy.
   a. 33 b. 36 c. 30 d. 26

   Ans: a

10. If $\frac{P}{Q} = \frac{1}{3}$ then $\frac{27P-34Q}{36P-3Q}$ is
    a. 14/3 b. -14/3 c. -25/9 d. 25/9

    Ans: c

11. If $\frac{x}{y} = \frac{3}{4}$ then the value of $\frac{6}{7} + \frac{y-x}{y+x}$ equals to
    a. 3 b. 2 c. 1 d. 5

    Ans: c

12. If x = y = 3:4 , find (4x + 5y) = (5x – 2y)
    a. 31/7 b. 32/7 c. 33/7 d. 7/32

    Ans: b

13. If x + y = 12 and xy = 32 then 1/x + 1/y is
    a. 1/8 b. ½ c. ¼ d. 3/8

    Ans: d

14. If $2^{x+y} = 2^{x-y} = 16$ then y is
    a. 2 b. 4 c. 0 d. 1

    Ans: c

15. $1 \div \frac{5}{7}$ of $6\frac{3}{10} - \frac{2}{9} = ?$
    a. 1 b. 0 c. 2 d. ½

    Ans: b

16. If $8 - 5 \times 4 = 44$ and $15 - 3 \times 3 = 48$ then $16 - 4 \times 5 = ?$
    a. 0 b. 69 c. 20 d. 25

    Ans: b

17. ¼ of 3/5 of 6/5 of a number is 54. Then the number is
    a. 280 b. 300 c. 320 d. 350

Ans: b

18. Find x in $4^x \times 64^{2x} = 16^{x+5}$
    a. 1 b. 5 c. 4 d. 2

    Ans: 2

19. If $a * b = \sqrt{a^2 + b^2}$ then what is the value of 3*4?
    a. 9 b. 16 c. 25 d. 5

    Ans: d

20. Find the value of 100 – (99 –(98-(97-(.....(2-1))).....
    a. 30 b. 40 c. 50 d. 52

    Ans: c

21. The value of $\frac{9^2 \times 18^4}{3^{16}}$ is
    a. 2/3 b. 4/9 c. 16/81 d. 32/243

    Ans: c

22. The value of $\frac{1}{3+\frac{2}{2+\frac{1}{2}}}$ is
    a. 5/19 b. 19/5 c. 4/5 d. 5/4

    Ans: a

23. If $\sqrt[6]{x} = 6$, then $\sqrt{x^6} =$
    a. 6^{18} b. 6 c. 6^6

    Ans: a

24. Evaluate $\sqrt[3]{3375}$
    a. 335 b. 40 c. 15 d. 10

    Ans: c

25. Find $\sqrt{74 + \sqrt{44 + \sqrt{22 + \sqrt{5 + \sqrt{16}}}}}$
    a. 5 b. 7 c. 6 d. 9

    Ans: d

26. If $(121)^2$ = 14641 then find the value of $\sqrt{146.41}$
    a. 1.21 b. 12.1 c. 0.121 d. 0.0121

    Ans: b

27. Arrange in descending order: $\sqrt[3]{12}$, $\sqrt[4]{20}$, $\sqrt[6]{25}$, $\sqrt{80}$, $\sqrt[12]{112}$
    a. $\sqrt{80}, \sqrt[3]{12}, \sqrt[4]{20}, \sqrt[6]{25}, \sqrt[12]{112}$
    b. $\sqrt{80}, \sqrt[3]{12}, \sqrt[4]{20}, \sqrt[12]{112}, \sqrt[6]{25}$
    c. $\sqrt[3]{12}, \sqrt{80}, \sqrt[4]{20}, \sqrt[6]{25}, \sqrt[12]{112}$
    d. $\sqrt[6]{25}, \sqrt[12]{112}, \sqrt[3]{12}, \sqrt{80}, \sqrt[4]{20}$

Ans: a

Probability

1. The marks obtained by 10 students in an examination were as follows: 70, 65, 68, 70, 75, 73, 80, 70, 83, 86. Then the mean deviation about mode is
   a. 7.71 b. 5.4 c. 54 d. 5.6

   Ans: b

2. For a distribution mean = 65, median = 70 and coefficient of skewness = -0.6. Then mode and coefficient of variation are respectively
   a. 38.5 and 80 b. 55 and 25.64 c. 80 and 38.5 d. 25.64 and 55

   Ans: c

3. The marks obtained by 10 students in a test are:
   Marks scored: 1 2 3 4 5
   No of students: 0 2 1 3 4
   The median score is
   a. 4 b. 2 c. 3 d. 1

   Ans: a

4. The mode of 6, 4, 5, 6, 3, 2, 2, 5, 4, 3, 6, 5, 4, 7, 4, 9, 9 is
   a. 6 b. 4 c. 5 d. 9

   Ans: b

5. The arithmetic mean of all the factors of 21 is
   a. 11/3 b. 31/3 c. 5 d. 8

   Ans: d

6. The total number of all possible squares in a chess board is
   a. 8 b. 64 c. 512 d. 204

   Ans: d

7. The average of first nine prime number is
   a. $11\frac{1}{9}$ b. 22 c. 25 d. $12\frac{2}{4}$

   Ans: a

8. Mean of 25 observation was found to be 78.4. But later it was found that 96 was mis-read as 69. Then the corrected mean is
   a. 79.48 b. 76.54 c. 81.32 d. 78.4

   Ans: a

9. If $\frac{1}{8}$ of a pencil is black, $\frac{1}{2}$ of the remaining is white and the remaining $3\frac{1}{2}$ cm is blue, find the length of the pencil.
   a. 6 cm b. 8 cm c. 10 cm d. 12 cm

   Ans: b

10. If the mean of four observations is 20 and when a constant C is added to each observation, the mean becomes 22. Find the value of C.
    a. 2 b. -2 c. 6 d. 4

    Ans: a

11. If each entry in a data is divided by 10 find the change in their arithmetic mean
    a. Multiplied by 10 b. does not change c. is divided by 10 d. is decreased by 10

    Ans: c

12. Time taken by 5 members winner team of a 5×1000 meters relay race are 2.25, 2.15, 2.30, 2.60 and 2.40 minutes respectively. Find the team's average speed in km/hour.
    a. 24 b. 20 c. 15 d. 25

    Ans: d

13. Find the coefficient of variation if n=10, $\bar{x}$ = 12 and $\sum x^2$ = 1530
    a. 153 b. 144 c. 9 d. 25

    Ans: d

14. Obtain the mean of the following data

X :	5	10	15	20	25
F:	3	10	25	7	5

a. 15.0 b. 15.2 c. 15.1 d. 15.5

Ans: c

15. The average mark of 10children is 80 then their total mark is
    a. 200 b. 300 c. 800 d. 400

    Ans: c

1. The number of values less than the median of 97 values is
   a. 48 b. 0.50 c. 48.5 d. 47

   Ans: a

2. A set of values in ascending order are 20, 22, x, 28, 30, 32. If median of these values is 26 then the value of x is
   a. 24 b. 28 c. 23 d. 26

   Ans: a

3. Thirteen eggs collected in a farm have the following weights in grams: 32, 40, 28, 33, 39, 46, 41, 33, 40, 41, 31, 32, 33. The mode of the above data is
   a. 32 b. 46 c. 40 d. 33

   Ans: d

4. If the mean of x, x+2, x+4, x+6, x+8 is 20 then x is
   a. 18 b. 76 c. 24 d. 16

   Ans: d

5. The mean of 15numbers is 213. If each number is divided by 3, the new mean will be
   a. 71 b. 639 c. 210 d. 42.6

   Ans: a

6. The arithmetic mean of 10numbers is -7. If 5 is added to every number then the new arithmetic mean is
   a. -2 b. 12 c. -7 d. 17

Ans: a

7. The product of mean and mode for the data 1, 2, 2, 3, 3, 3, 4, 4, 4, 4 equals

a. 12 b. 4 c. 3 d. 7

Ans: a

8. The mean mark of 100 students was found to be 60. Later on it was found that a score of 91 was misread as 41. Then the correct mean corresponding to the correct score is
   a. 60 b. 60.5 c. 59.5 d. 58.5

Ans: b

9. The mean of 5 observations is 25, if one of the observation is excluded the mean becomes 20. The excluded number is
   a. 45 b. 40 c. 20 d. 10

Ans: a

10. The mean of the first n natural numbers
    a. $\frac{n(n+1)}{2}$ b. $\frac{n(n+1)(2n+1)}{2}$ c. $\frac{(n+1)}{2}$ d. n^2

Ans: c

11. If the arithmetic mean of 7, 5, 13, x and a be 10, then the value of x is
    a. 10 b. 16 c. 12 d. 15

Ans: b

12. The mean of first five prime numbers is
    a. 5.0 b. 4.5 c. 5.6 d. 6.5

Ans: c

13. The mean weight of 40students using the data given below is

Weights (in Kgs):	48	50	53	54
No of students:	5	20	10	5

    a. 51 b. 50 c. 51.5 d. 52

Ans: a

14. The arithmetic mean of a group of 100 observations was calculated as 63. It was later found that one observation was wrongly taken as 75 instead of 65. The correct mean is
    a. 63.1 b. 63 c. 62.9 d. 73

Ans: c

15. Mean of 100items and their standard deviation is 20. Then the sum of squares of all the items is
    a. 46000 b. 400000 c. 362000 d. 8000

    Ans: b

16. The mean of 5 numbers is 25. If one number is excluded and the mean is still 25, the excluded number is
    a. 25 b. 0 c. 20 d. 30

    Ans: a

17. The ages of children in a scout cam are 14, 14, 15, 16, 14, 16, 15, 16, 14, 14 years. The relationship between mean, median and mode is
    a. Mean = Median = Mode
    b. Mean < Median <Mode
    c. Mean>Median>Mode
    d. Median<Mode<Mean

    Ans: c

18. What is the standard deviation of the first n natural numbers?
    a. $\sqrt{\frac{n^2-1}{12}}$ b. $\sqrt{\frac{n^2+1}{12}}$ c. $\sqrt{\frac{n(n+1)}{12}}$ d. $\frac{n(n+1)(2n+1)}{12}$

    Ans: a

19. The standard deviation of 50, 47, 53, 48, 51, 52, 49 is
    a. 4 b. 2 c. 14/3 d. $\sqrt{14/3}$

    Ans: b

20. If l is the standard deviation of the elements α, β, Υ. Then the standard deviation of the elements α+3, β+3, Υ+3 is
    $a. l+3$ b. $l-3$ c. l d. $3l$

    Ans: c

21. Find the range of the following data: 25, 67, 78, 43, 21, 17, 49, 54, 76, 92, 20, 45, 86, 37, 35.
    a. 78 b. 75 c. 92 d. 86

    Ans: b

22. The heights (in meters) of 10 trees in a grove are 15, 2, 8, 11, 3, 9, 9, 6, 10, 6, 12. The range for this data is

a. 10 b. 15 c. 6 d. 13

Ans: d

23. The range of the first 30natural numbers is
a. 28 b. 29 c. 30 d. 31

Ans: b

24. Find the range of first 10 prime numbers
a. 28 b. 26 c. 29 d. 27

Ans: d

25. Probability of sure and impossible events
a. $(\frac{1}{2}, \frac{1}{2})$ b. (0,1) c. (1,0) d. (1,1)

Ans: c

26. For a set of n values, $\sum x$ - $\bar{x}$ is equal to
a. $n\bar{x}$ b. $(n-2)\bar{x}$ c. $(n-1)\bar{x}$ d. 0

Ans: c

27. For any n observations of data, what is the value of $\sum x) - n\bar{x}$?
a. $n(\sum x)$ b. $n-2)\bar{x}$ c. $n-1)\bar{x}$ d. 0

Ans: d

28. Find the average of first ten positive multiples of three?
a. 17.5 b. 17 c. 16.5 d. 16

Ans: c

29. The average marks of 6boys in a group is 47. The marks of 5 of them are 52, 47, 52, 44 and 41. The marks of the sixth boy is
a. 41 b. 44 c. 47 d. 46

Ans: d

30. The average of 4 values is 20 and when a quantity is added to each value the average is 22. Find the quantity.
a.1 b. 2 c. 3 d. 4
Ans: b

31. Average of a and b is 45 and the average of b and c is 35 then a –c =?
a. 20 b. 30 c. 25 d. 15

Ans: a

32. Temperatures are recorded every 1 hour for eleven hours from 6.00am onwards in a town. The averages of the first six readings is 30degree Celsius, the last six readings is 20degree Celsius and the overall average is 26degree Celsius. The 6th reading is
a. 25degree b. 15degree c. 14 degree d. 26degree

Ans: c

33. There are 3persons namely, A B and C in family. The average age of A and B is 20, the average age of B and C is 19, and the average age of C and A is 21. The ages of A, B and C are
a. 22, 18, 20 b. 24, 20, 16 c. 18, 20, 24 d. 16, 20, 24

Ans: a

34. The average of 11numbers is 10.8. If the average of the first six numbers is 10.4 and that of the last six numbers is 11.5, then the middle (6th) number is
a. 10.3 b. 12.6 c. 13.5 d. 15.5

Ans: b

35. The average salary of all workers in the factory Rs.60. The average salary of 12 officers is Rs.400. The average salary of rest is Rs.56. Find the total no of workers in the factory.
a. 1116 b. 1032 c. 1212 d. 1132

Ans: b

36. The average weight of 10persons is increased by 1.5Kg when one of them with weight 50Kg Is replaced by a new man. The weight of the new man (in kgs) is
a. 60 b. 50 c. 55 d. 65

Ans: d

37. The average age of 50 students I 10^{th}std class is 15years. 10 more students are admitted afresh in the class and the average age is increased by 0.5years. The average age of the newly joined students is
a. 15 b. 16 c. 17 d. 18

Ans: d

38. The average height of 25boys of a class of 40 is 150cm. If the average height of the remaining boys is 154cm, then the average height of the whole class is
a. 152 b. 151.5 c. 154 d. 150

Ans: b

39. The average of five numbers is 20. If we eliminate one number from it, the average will be reduced by 5. What is the number eliminated?
 a. 5 b. 40 c. 20 d. 15

Ans: b

40. The coefficient of skewness based on quartiles is 5/9. If the difference of the quartiles is 72 and median is 30, then the value of the upper quartile is
 a. 90 b. 86 c. 14 d. 46.8

Ans: b

41. A card is drawn from a pack of 52 cards at random. The probability of getting neither a king nor a queen is
 a. 2/13 b. 11/13 c. 4/13 d. 8/13

Ans: b

42. Two dice are thrown simultaneously. The probability of getting a doublet is
 a. 1/36 b. 1/3 c. 1/6 d. 2/3

Ans: c

43. From the following table on distribution of weekly wages of 800workers of a factory. Compute the numbers who earn more than Rs.4000

Wages in hundreds of rupees	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 to 55
No. of workers	50	70	160	180	150	120	70

 a. 340 b. 0 c. 150 d. 270

Ans: a

44. The frequency distribution of sales of shoes of a particular brand on a certain day is

Size of shoe	4	5	6	7	8	9	10
No. of pairs sold	2	5	3	23	39	27	1

Then the modal size of shoes sold is

a. 10 b. 8 c. 1 d. 39

Ans: b

45. The percentage of bulbs having lifetime of atleast 500hrs but less than 1000hrs from the frequency table is

Life time (in hours)	300 to 399	400 to 499	500 to 599	600 to 699	700 to 799	800 to 899	900 to 999	1000 to 1099	1100 to 1199
No. of bulbs	14	46	58	76	68	62	48	22	6

a. 88 b. 312 c. 78 d. 22

Ans: c

46. The following table gives the lifetime of 500 CFL lamps. A bulb is selected at random. The probability that the life time of the selected bulb is atmost 11 months is given by

Life time (months)	9	10	11	12	13	14	More than 14	Total
Number of lamps	26	71	82	102	89	77	53	500

a. 82/500 b. 179/500 c. 97/500 d. 268/500

Ans: b

47. From the following table, find the number of students who have scored marks between 20 and 50.

Marks	No. of Students
10 – 19	10
20 – 30	7
31 – 40	13
41 – 50	18
51 – 60	12
61 – 100	24

a. 20 b. 31 c. 30 d. 38

Ans: d

48. X is equal to

2	4	6	8	7
3	15	35	63	x

a. 51 b. 48 c. 59 d. 58

Ans: b