SPECIMEN QUESTIONS FOR

CLASS - 8

Class : 8

1. In a certain examination the average marks obtained by 17 examinees is 70. First 8 examinees have an average marks of 60·5 and that of last 8 examinees is 78·5. The marks obtained by the 9th examinee from the last is.
   (a) 83 (b) 6 (c) 81 (d) 78
2. The sum of two numbers X and Y is 72. 25% of X is greater than the other number by Y. The values of X and Y are –
   (a) 63, 9 (b) 64, 8
   (c) 62, 10 (d) 66, 6
3. 90 examinees sat for an examination and 40% passed in maths and 50% in English. Only 12 examinees passed in both subjects. The number of examinees failed are –
   (a) 19 (b) 23 (c) 21 (d) 10
4. Every 2 unit hydrogen mixes with 1 unit of oxygen to produce 1 unit of water. Find the percentage of hydrogen and oxygen in water?
   (a) 60%, 40% (b) 66%, 34%
   (c) 66.6%, 33.3% (d) 66.3%, 33.7%
5. If $x = at^2$, $y = 2at$ then $y^2 =$
   (a) $2at^2$ (b) $4a^2t^2$
   (c) $\frac{4ax}{y}$ (d) 4ax
6. If $\triangle x^5 = nx^{n-1}$ then which of these relations hold :–
   (a) $\triangle x^5 = 5x^4$ (b) $\triangle x^3 = 3x^3$
   (c) $\triangle x^4 = 4x^5$ (d) $\triangle x^2 = 4x$
7. If $x^m . x^{-m} = p$ then the value of p is
   (a) 1/2 (b) 0 (c) $\sqrt{2}$ (d) 1
8. If $x + y = 8$; $xy = 4$ and $y^2 = 3$ then the difference of the square of x and y is
   (a) 50 (b) 52 (c) 60 (d) 64
9. 2, 5, 11, 23, 47, * The value of * is
   (a) 97 (b) 95 (c) 91 (d) None of these.
10. If $\frac{x}{y} = \frac{4}{5}$ and $K = \frac{2x+5y}{5x+2y}$ then the value of K is —
    (a) $2\frac{2}{5}$ (b) $1\frac{1}{9}$ (c) $2\frac{3}{4}$ (d) $1\frac{1}{10}$
11. If $x = \frac{\sqrt{3}}{2}$ then the value of $\frac{\sqrt{1+x}+\sqrt{1-x}}{\sqrt{1+x}-\sqrt{1-x}}$ is –
    (a) $\sqrt{2}$ (b) $\sqrt{3}$
    (c) $\sqrt{1}$ (d) None of these
12. If $\frac{1}{(x-1)(x-2)} + \frac{1}{(x-2)(x-3)} - \frac{1}{x-3} = -\frac{1}{6}$, then the value of x is –
    (a) 3 (b) 5 (c) 7 (d) None of these

13. If $n! = n(n-1)(n-2)(n-3)\ldots\ldots.4.3.2.1$. Where n is a natural number. Then what will be the remainder if $(1! + 2! + 3! + 4! + 5! + \ldots\ldots + 99! + 100!)$ is divided by 12?

(a) 2 (b) 7 (c) 5 (d) 9

14. If $2x - \frac{2}{x} = 3$, then the value of $\left(x^3 - \frac{1}{x^3}\right)$ equals to

(a) 53/9 (b) 63/8
(c) 25/27 (d) None of these

15. Evaluate : – $\sqrt{5\sqrt{5\sqrt{5\sqrt{5\ldots\ldots\infty}}}}$

(a) 0, 1 (b) 0, 5 (c) 1, 5 (d) 5, 5

16. Pure milk consist of water part and residue in ratio 89 : 11. How much water be added to get milk a specimen with water and residue ratio as 90 : 10 for 22 lt.

(a) 1 lt. (b) 2 lt. (c)3 lt. (d) 4 lt

17. Divide Rs. 104 between Amit and Mita so that for every 5 rupees given to Amit. Mita may get Rs. 3.

(a) Rs. 60 (b) Rs. 69 (c) Rs. 70 (d) Rs. 65

18. The measure of an interior angles of a regular polygon is 150^O, find the number of its sides.

(a) 10 (b) 11 (c) 12 (d) 13

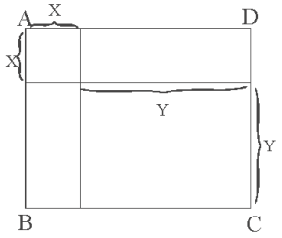
19. The angles of a triangle are $\frac{7x+10}{2}, \frac{3x}{2}$ and $\frac{2x-2}{3}$ what is the magnitude of the largest angle.

(a) $120{\cdot}3^o$ (b) $113{\cdot}5^o$ (c) 115^o (d) 120^o

20. Solve it :– $\frac{6x+20y}{7} = \frac{36x+16y}{16} = 1$

(a) $\frac{1}{2}, \frac{1}{2}$ (b) $\frac{3}{4}, \frac{2}{7}$
(c) $\frac{2}{3}, \frac{3}{4}$ (d) $\frac{1}{3}, \frac{1}{4}$

21. $ABCD$ is a square of area W, according to the figure the relation between X, Y and W is

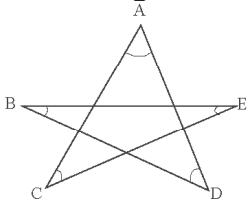


(a) $W + X^2 + Y^2 = 2XY$ (b) $W + X^2 + Y^2 = 4XY$ (c) $W - X^2 - Y^2 = 4XY$
(d) $W - X^2 - Y^2 = 2XY$

22. Factorize : $(a - b + c)^2 + (b - c + a)^2 + 2(a - b + c)(b + c - a)$

(a) $4a^2$ (b)$6a^2$ (c) $8a^2$ (d) None of these

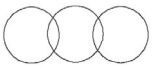
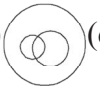
23. In the star shape shown in figure, the sum of the angles marked at the corners A, B, C, D, E is



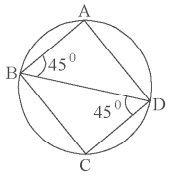
(a) 90 (b)135 (c) 180 (d) 140

24. Choose from the four diagrams the one that best illustrates the relationship among the three given classes.

Bus, Scooter, Conveyance

(a)  (b)  (c)  (d) 

25. In the given figure ABCD is a parallelogram inscribed inside a circle. $\angle ABD = 45^{\circ}$ and BD is the diameter of the circle. What is the measure of $\angle ABC$?



(a) 60° (b) 90° (c) 50° (d) None of these

26. If in a certain code SAND is VDQG and BIRD is ELUG then what is the code for LOVE ?

(a) PRYG (b) ORTG

(c) NPUH (d) ORYH

27. A dishonest dealer marks up the price of his goods by 20% and gives a discount of 10% to the customer. He also used a 900g weight instead of 1 kg weight. Find his profit percentage.

(a) 8% (b) 12% (c) 20% (d)None of these

28. If 'X' stands for 'addition', '<' stands for 'subtraction', '+' stands for 'division', '>' stands for 'multiplication', '–' stands for 'equal to', ' ÷ ' stands for 'greater than, and '=' stands for 'less than', state which of the following is true ?

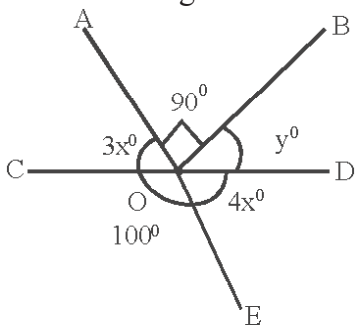
(a) $5 \times 3 < 7 \div 8 + 4 \times 1$

(b) $3 \times 4 > 2 - 9 + 3 < 3$

(c) $5 > 2 + 2 = 10 < 4 \times 8$

(d) $3 \times 2 < 4 \div 16 > 2 + 4$

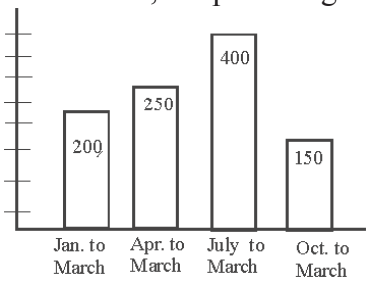
29. In the given figure $\angle AOB = 90^{0}$ and COD is a straight line. The values of 'x'and 'y' are respectively



(a) 25^{0} and 15^{0} (b)20^{0} and 30^{0}

(c) 15^{0} and 45^{0} (d)10^{0} and 60^{0}

30. The mortality in a town during 4 quarters of a year due to various cause is given in the figure. Based on this data, the percentage increase in mortality in the third quarter is



(a) 40 (b) 50 (c) 60 (d) 75

31. A car travels from A to B at a speed of X km/hr, another car travels from B to A at a speed twice the first car. The average speed of the cars driving the entire travel is

(a) $\frac{4}{3}xkm/hr$ (b) $\frac{3y}{2x}km/hr$ (c) $\frac{3}{2}xkm/hr$ (d) $\frac{2}{3}xkm/hr$

32. A compositor compose 196 line in 7 hours. If he works overtime for another 4 hours. How many lines he compose in that time –

(a) 110 (b) 116 (c) 108 (d) 112

33. If an article of Rs x be sold for a loss of 30%. What will selling price ?

(a) Rs. $\frac{7}{10}x$ (b) Rs. $\frac{4x}{5}$ (c) Rs. $\frac{3x}{5}$ (d) Rs. $\frac{x}{2}$

34. If $x+\frac{1}{x}=5$, then the value of $\frac{x}{x^2+x+1}$ is

(a) 1/2 (b) 2 (c) 1/3 (d) 1/6

35. A task can be filled by two pipes in 20 mins and 30 mins respectively. When the tank was empty, the two pipes were open. After some time, the first pipe was stopped and the tank was filled in 18 mins. After how much time of the starting was the first pipe stopped ?

(a) 5 mins (b) 8 mins (c) 10 mins (d) 12 mins

36. Factorise $\frac{9}{16}x^2+\frac{4}{9}y^2+4z^2-xy-\frac{8}{3}y^2+3zx$

(a) $\left(\frac{3}{4}x-\frac{2}{3}y+2z\right)^2$ (b) $\left(\frac{3}{4}x+\frac{2}{3}y+2z\right)^2$

(c) $\left(\frac{3}{4}x+\frac{2}{3}y-2z\right)^2$ (d) $\left(\frac{3}{4}x-\frac{2}{3}y-2z\right)^2$

37. In a certain language, 'FOR' stands for 'old is gold', 'ROT' stands for 'gold is pure' , 'ROM' stands for 'gold is costly'. How will 'pure old gold is costly' be written ?

(a) TFROM (b) FOTRM (c) FTORM (d) TOMRF

38. The HCF of all the natural numbers from 200 to 478 is -

(a) 2 (b) 1 (c) 478 (d) 3

39. $\frac{4\frac{1}{7}-2\frac{1}{4}}{3\frac{1}{5}+1\frac{1}{7}}\div\frac{1}{2+\frac{1}{2+\frac{1}{5-\frac{1}{5}}}}$ =?

(a) $\frac{7}{29}$ (b) $\frac{5}{6}$ (c) 1 (d) $\frac{9}{13}$

40. ABCD is a parallelogram. The diagonals AC and BD intersect at a point O. If E, F, G and H are the mid-points of AO, DO, CO and BO respectively, the ratio of (EF + FG + GH + HE) to (AD + DC + CB + BA) is,

(a) 1 : 1 (b) 1 : 2 (c) 1 : 3 (d) 1 : 4

41. Rs. 800 amounts to Rs. 920 in 3 years at simple interest. If the interest rate is increased by 3% then in 3 years it would amount to

(a) Rs. 992 (b) Rs. 987 (c) Rs. 989 (d) Rs. 1008

42. $\left(x^{\frac{1}{8}}+x^{-\frac{1}{8}}\right)\left(x^{\frac{1}{8}}-x^{-\frac{1}{8}}\right)\left(x^{\frac{1}{4}}+x^{-\frac{1}{4}}\right)\left(x^{\frac{1}{2}}+x^{-\frac{1}{2}}\right)=?$

(a) $\left(x+\frac{1}{x}\right)$ (b) $\left(x-\frac{1}{x}\right)$ (c) $\left(x^2+\frac{1}{x^2}\right)$ (d) $\left(x^2-\frac{1}{x^2}\right)$

43. Find the value of 'a' in $4x^4+2x^3-3x^2+8x+5a$, if $(x+2)$ is its factor

(a) 4 (b) - 4 (c) 3 (d) 0

44. $a^3-\sqrt[3]{3}b^3=?$

(a) $\left(a+\sqrt{3}b\right)\left(a^2-ab\sqrt{3}+3b^2\right)$ (b) $\left(a-b\sqrt{3}\right)\left(a^2+ab\sqrt{3}+3b^2\right)$

(c) $\left(a-b\sqrt{3}\right)\left(a^2-ab\sqrt{3}+3b^2\right)$ (d) $\left(a-b\sqrt{3}\right)\left(a^2+3ab+3b^2\right)$

45. $\sqrt[3]{1728\times2744}=?$

(a) 158 (b) 138 (c) 168 (d) 278

46. The product of $\left(2x^2-5x^2-x+7\right)$ and $\left(3-2x+x^2\right)$ is

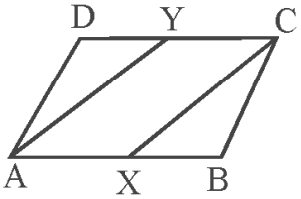
(a) $-3x^4+5x^3-17x+21$ (b) $x^5+24x^4+5x^2+x+21$

(c) $8x^5+x^4-12+7x+1$ (d) $3x^5-4x^4+x^3-5x^2-7x+2$

47. $\sqrt{1048576}=?$

(a) 1024 (b) 2434 (c) 1324 (d) 1426

48. ABCD is a parallelogram and X, Y are the mid points of sides AB and CD respectively. Then quadrilateral AXCY is



(a) parallelogram (c) Rhombus (c) Square (d) Rectangle

49. How many sides does a regular polygon have if the measure of an exterior angle is 36^0

(a) 15 (b) 30 (c) 10 (d) 20

50. $\frac{2}{3}$rd of a number when multiplied with $\frac{3}{4}$th of the same number make 338. The number is

(a) 18 (b) 24 (c) 36 (d) 26

51. $\left(x^{5/2}+x^2y^{\frac{1}{3}}+x^{\frac{3}{2}}y^{\frac{2}{3}}+xy+x^{\frac{1}{2}}y^{\frac{4}{3}}+y^{\frac{5}{3}}\right)\times\left(x^{\frac{1}{2}}-y^{\frac{1}{3}}\right)=$

(a) x^3-y^2 (b) x^2-y^2 (c) x^3+y^3 (d) $2x^3$

52. If $n ! = n (n–1) (n–2) (n–3)$ ..... 4.3.2.1. Where n is natural number. Then what will be the remainder if (1! + 2! + 3!+ 4!+ 5!+ .....+ 99! +100!) is divided by 12?
(a) 2 (b) 7 (c) 5 (d) 9

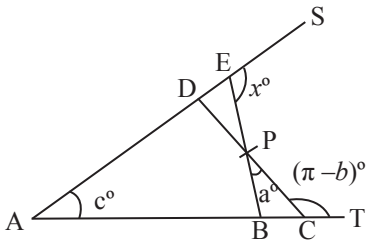
53. The measure of an interior angles of a regular polygon is 150º, find the number of its sides.
(a) 10 (b) 11 (c) 12 (d) 13

54. 1,1.5,3,7.5?
(a) 28 (b) 30 (c) 34.5 (d) 22.5

55. Find the number of triangles in the given figure.

(a) 4 (b) 5 (c) 6 (d) 7

56. The angles x^0, a^0, c^0 and $(\pi–b)^0$ are indicated in the figure given below.

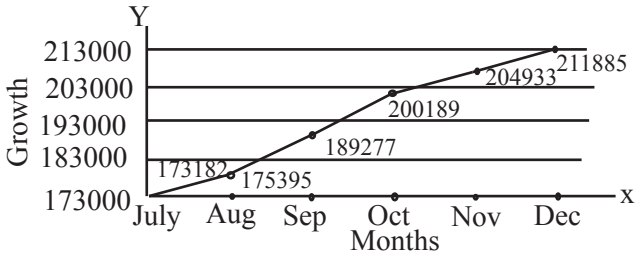


Which one of the following is correct?

(a) $x^0 = a^0 + c^0 – b^0$ (b) $x^0 = b^0 – a^0 – c^0$ (c) $x^0 = a^0 + b^0 + c^0$ (d) $x^0 = a^0 – b^0 + c^0$

Directions (Q Nos. 57-60) Study the following graph carefully and answer the questions that follow

Circulation growth of GRAMSEWA magazine from July to December 2003



57. During November and December, there is an even growth rate, the average of which is
(a) 2.36% (b) 2% (c) 2.88% (d) 3.36%

58. The circulation in October is ... times than that of July.
(a) 1.5 (b) 2 (c) 1 (d) 1.15

59. The growth rate is very marginal during the month of
(a) August (b) October (c) November (d) December

60. What is the total circulations of magazine from July to December?
(a) 1154681 (b) 1154861 (c) 1145861 (d) 1150862