

1. Which of the following statement is true?

- A. Every point on the number line represents a rational number
- B. The product of a rational number and its reciprocal is 0.
- C. $(17 \times 12)^{-1} = 17^{-1} \times 12$
- D. Reciprocal of $\frac{1}{a}$, $a \neq 0$ is a

Right Answer:: D

2. The number which is subtracted from $\frac{27}{13}$ to get $\frac{-3}{7}$ is _____.

- A. $\frac{228}{91}$
- B. $\frac{1}{91}$
- C. $\frac{200}{91}$
- D. $\frac{198}{91}$

Right Answer:: A

3. The sum of the additive inverse and multiplicative inverse of 2 is _____.

- A. $\frac{3}{2}$
- B. $\frac{-3}{2}$
- C. $\frac{1}{2}$
- D. $\frac{-1}{2}$

Right Answer:: B

4. If $\left(\frac{2}{3}\right)^{\text{rd}}$ of a number is 20 less than the original number, then the number is _____.

- A. 60
- B. 40
- C. 80
- D. 120

Right Answer:: A

5. Solution of the equation $6(3x + 2) - 5(6x - 1) = 6(x - 3) - 5(7x - 6) + 12x$ is _____.

- A. -1

- B. 1
- C. 0
- D. 2

Right Answer:: A

$\left(\frac{2}{3}\right)^{\text{rd}}$ of a number when multiplied by $\frac{3}{4}$ of the same number make 338.

6. The number is _____.

- A. 18
- B. 24
- C. 36
- D. 26

Right Answer:: D

7. The sum of the measures of the external angles of any polygon is _____.

- A. 180°
- B. 360°
- C. 540°
- D. Depends on the number of sides

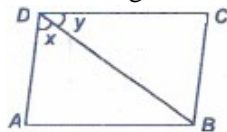
Right Answer:: B

8. Four angles of a quadrilateral are in the ratio 3: 5: 7: 9. The greatest angle is _____.

- A. 125°
- B. 75°
- C. 135°
- D. 120°

Right Answer:: C

9. ABCD is a parallelogram as shown. Then the angles x and y are related as _____.



- A. $x = y$
- B. $x < y$
- C. $x > y$
- D. Cannot be determined from given data

Right Answer:: D

10. If $\sqrt{0.01 + \sqrt{0.0064}} = x$, then the value of x is _____.

- A. 0.3
- B. 0.03

- C. $\sqrt{0.18}$
D. None of these

Right Answer:: A

11. The value of $\sqrt{99} \times \sqrt{396}$ is _____.

- A. 208
B. 198
C. 254
D. 205

Right Answer:: B

12. The greatest six - digit number, which is a perfect square is _____.

- A. 998001
B. 995001
C. 997001
D. 996001

Right Answer:: A

13. The value of $\sqrt[6]{\left(\frac{91125}{216}\right)^2}$ is _____.

- A. 4.5
B. 5.5
C. 6.5
D. 7.5

Right Answer:: D

14. The smallest number by which 392 must be multiplied so that the product is a perfect cube, is _____.

- A. 3
B. 5
C. 7
D. 9

Right Answer:: C

15. The cube of an odd natural number, is _____.

- A. Even
B. Odd
C. Even or odd
D. Can't say

Right Answer:: B

16. What sum lent out at C.I. will amount to Rs.968 in 2 years at 10% p.a. interest?

- A. Rs.800
- B. Rs.1000
- C. Rs.1200
- D. Rs. 500

Right Answer:: A

17. If 5% more is gained by selling an article for Rs.350 than by selling it for Rs.340, the cost of the article is _____.

- A. Rs.50
- B. Rs.160
- C. Rs.200
- D. Rs.225

Right Answer:: C

18. The C.I. on a certain sum for 2 years is Rs.410 and S.I. is Rs.400. The rate of interest per annum is _____.

- A. 10 %
- B. 8 %
- C. 5 %
- D. 4 %

Right Answer:: C

19. $8\frac{1}{3}$ % expressed as a fraction is _____.

- A. $\frac{25}{3}$
- B. $\frac{3}{25}$
- C. $\frac{1}{12}$
- D. $\frac{1}{4}$

Right Answer:: C

20. If quotient = $3x^2 - 2x + 1$, remainder = $2x - 5$ and divisor = $x + 2$, then the dividend is _____.

- A. $3x^3 - 4x^2 + x - 3$
- B. $3x^3 - 4x^2 - x + 3$
- C. $3x^3 + 4x^2 - x + 3$
- D. $3x^3 + 4x^2 - x - 3$

Right Answer:: D

21. The degree of the polynomial $5x^3 - 6x^3y + 4y^2 - 8$ is _____.

- A. 3
 - B. 4
 - C. 2
 - D. Cannot be determined
- Right Answer:: B

22. The product of $(x^2 + 3x + 5)$ and $(x^2 - 1)$ is _____.

- A. $x^4 + 3x^3 - 4x^2 - 3x - 5$
 - B. $x^4 + 3x^3 + 4x^2 - 3x - 5$
 - C. $x^4 + 3x^3 + 4x^2 + 3x - 5$
 - D. $x^4 + x^3 + x + 5$
- Right Answer:: B

23. The ratio of the areas of a square to that of a square drawn on its diagonal is _____.

- A. 1: 1
 - B. 1: 2
 - C. 1: 3
 - D. 1: 4
- Right Answer:: B

24. The surface areas of the six faces of a rectangular solid are 4, 4, 8, 8, 18 and 18 square centimetres. The volume of the solid, in cubic centimetres is _____.

- A. 24
 - B. 48
 - C. 60
 - D. 324
- Right Answer:: A

25. The ratio of areas of two squares, one having double its diagonal than the other, is _____.

- A. 3 : 2
 - B. 4 : 1
 - C. 3 : 1
 - D. 4 : 3
- Right Answer:: B

26. The area of a trapezium is 28 cm^2 and one of its parallel sides is 6 cm. If its altitude is 4 cm, then its other parallel side is _____.

- A. 8 cm
 - B. 4 cm
 - C. 6 cm
 - D. 9 cm
- Right Answer:: A

27. If $\frac{10}{3} \times 3^x - 3^{x-1} = 81$, then the value of x is _____.

- A. 2
- B. 1
- C. 3
- D. 0

Right Answer:: C

28. Match the following provided that a and b are any rational numbers different from zero and x, y are any rational numbers.

(1) $a^x \times a^y$	(a) a^{x-y}
(2) $a^x \div a^y$	(b) a^{xy}
(3) $(a^x)^y$	(c) a^{x+y}
(4) $(ab)^x$	(d) $\frac{a^x}{b^x}$
(5) $\left(\frac{a}{b}\right)^x$	(e) $a^x \cdot b^x$

- A. 1-(c), 2-(a), 3-(b), 4-(e), 5-(d)
- B. 1-(b), 2-(c), 3-(a), 4-(e), 5-(d)
- C. 1-(a), 2-(c), 3-(d), 4-(e), 5-(b)
- D. 1-(a), 2-(b), 3-(c), 4-(d), 5-(e)

Right Answer:: A

29. The reciprocal of the rational number is $\left(\frac{3}{2}\right)^{-2} \div \left(\frac{1}{3}\right)^{-3}$ is _____.

- A. $\frac{240}{4}$
- B. $\frac{241}{2}$
- C. $\frac{243}{4}$
- D. $\frac{241}{4}$

Right Answer:: C

30. If $x : y = 2 : 3$ and $2 : x = 1 : 2$, then value of y is _____.

- A. $\frac{1}{3}$
- B. $\frac{3}{2}$
- C. 6
- D. $\frac{1}{2}$

Right Answer:: C

31. A can do a work in 9 days. If B is 50% more efficient than A, then in how many days can B do the same work?

- A. 13.5
- B. 4.5
- C. 6
- D. 5

Right Answer:: C

32. If 5 men take an hour to dig a ditch, how long should it take 12 men to dig a ditch of the same type?

- A. 25 mins
- B. 30 mins
- C. 28 mins
- D. 20 mins

Right Answer:: A

33. One factor of $-x^2 + x\sqrt{3} + 6$ is _____.

- A. $2\sqrt{3} + x$
- B. $-2\sqrt{3} + \sqrt{3}x$
- C. $x - \sqrt{3}$
- D. $2\sqrt{3} - x$

Right Answer:: D

34. One of the factors of $x^2 + \frac{1}{x^2} + 2 - 2x - \frac{2}{x}$ is _____.

- A. $x - \frac{1}{x}$
- B. $x + \frac{1}{x} - 1$
- C. $x + \frac{1}{x}$
- D. $x^2 + \frac{1}{x^2}$

Right Answer:: C

35. Evaluation of $(8.6)^2 - (1.4)^2$ is _____.

- A. 70
- B. 72
- C. 60
- D. 40

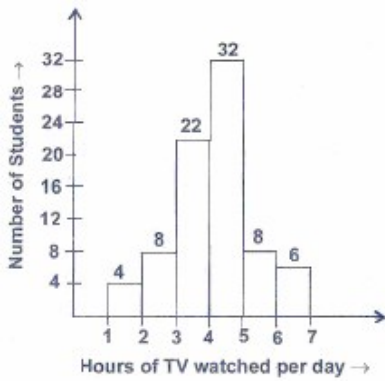
Right Answer:: B

36. $(0, -3)$ lies on

- A. Positive x-axis
- B. Negative x-axis
- C. Positive y-axis
- D. Negative y-axis

Right Answer:: D

37. The number of hours for which students of a particular class watched television during holidays is shown through the given graph. Answer the following question.

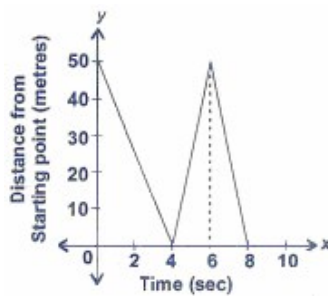


The number of students watched TV for less than 4 hours, is _____.

- A. 4
- B. 8
- C. 34
- D. 22

Right Answer:: C

38. On the basis of the given graph, the total distance travelled during 8 seconds, is _____.



- A. 0 m
- B. 100 m
- C. 150 m
- D. 50 m

Right Answer:: C

39. 21436587 is divisible by _____.

- A. 2
- B. 5
- C. 7
- D. 9

Right Answer:: D

40. If N divided by 5 leaves a remainder of 3, then one's digit of N must be _____.

- A. Either 3 or 6
- B. Either 3 or 8
- C. Either 8 or 1
- D. Either 8 or 6

Right Answer:: B

41. When a certain number is multiplied by 13, the product consists entirely of fives. The smallest such number is _____.

- A. 41625
- B. 42515
- C. 42735
- D. 42135

Right Answer:: C

42. At 7.00 am, the temperature was -6°F . The temperature was 8°F higher at noon. Which one of the following expression can be used to calculate the temperature at noon ?

- A. $(-6 + 8)^{\circ}\text{F}$
- B. $(-6 - 8)^{\circ}\text{F}$
- C. $(8 + 6)^{\circ}\text{F}$
- D. $(8 - (-6))^{\circ}\text{F}$

Right Answer:: A

43. Two tankers contain 150 litres and 100 litres of petrol respectively. The maximum capacity of container which can be used to measure exactly petrol of tanks, is _____.

- A. 150 litres
- B. 100 litres
- C. 50 litres
- D. 25 litres

Right Answer:: C





44. Mohit has to take his medication every four days. If he takes it next Sunday, how many days will it be before he takes his medication on another Sunday?

- A. 23
- B. 25
- C. 28
- D. 20

Right Answer:: C

45. Choose from the four diagrams marked (A), (B), (C) and (D) the one that best illustrates the relationship among three given classes.

Bus, Scooter, Conveyance

- A. 
- B. 
- C. 
- D. 

Right Answer:: A

46. Tree is to ground as chimney is to _____

- A. Smoke
- B. Brick
- C. Sky
- D. House

Right Answer:: D

47. The owner of the Lucky Fish Restaurant is using his computer to create business cards. The logo he has chosen is shown here. Which transformation should he use on the left fish to produce the right fish?



- A. Translation
- B. Rotation of 90°
- C. Reflection
- D. Rotation of 180°





Right Answer:: C

48. There are four problem figures A, B, C, and D and four answer figures marked (A), (B), (C) and (D). Select a figure from amongst the answer figures which will continue the same series as given in the problem figures.

Problem Figures



A B C D

- A. 
- B. 
- C. 
- D. 

Right Answer:: C

What is the value of x in the given equation?

49.
$$\frac{(3x + 1)}{16} + \frac{(2x - 3)}{7} = \frac{(x + 3)}{8} + \frac{(3x - 1)}{14}$$

- A. 2
- B. 4
- C. 3
- D. 5

Right Answer:: D

50. If $\triangle RTW \cong \triangle ABC$, what is the measure of $\angle T$ in the given figure ?



- A. 12°
- B. 72°
- C. 80°
- D. 90°

Right Answer:: D