

1. Find the common factors of 20 and 28.

- a) 20, 28
- b) 1, 2, 4
- c) 1, 5, 10, 20
- d) 2, 28, 2

2. Using number line: (-8) is the left side of

- a) 2
- b) -10
- c) -18
- d) 10

3. Smallest whole number is

- a) 1
- b) -1
- c) 0
- d) -5

4. Write in Roman Number 69

- a) LXX
- b) LIX
- c) LXIX
- d) LXXI

5. Predecessor of 5 is

- a) 7
- b) 6
- c) 4
- d) 8

6. What is the successor of 2001?

(a) 2003 (b) 2001 (c) 2002 (d) 2000

7. Which natural number has no predecessor?

- a. 1
- b. 2
- c. None of these
- d. 0

8. Which is the smallest whole number?

(a) 0 (b) 2 (c) 1 (d) None of these

9. Study the pattern:

$$1 \times 8 + 1 = 9$$

$$12 \times 8 + 2 = 98$$

- a. $120 \times 8 + 3 = 963$
 - b. None of these
 - c. $123 \times 8 + 3 = 987$
 - d. $1234 \times 8 + 4 = 9876$
10. $460 \underline{\quad} 406$
- a. =
 - b. None of these
 - c. >
 - d. <

11. **Match the following**

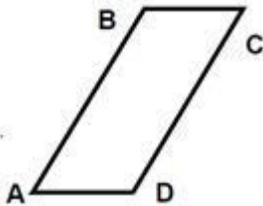
Column A	Column B
1. Commutative property	a. $(a \times b) \times c = a \times (b \times c)$
2. Associative Property	b. $a(b + c) = ab + ac$
3. Identity for multiplication	c. $a + b = b + a$
4. Distributive Property	d. $a \times 1 = a$

12. **Fill up the following:**

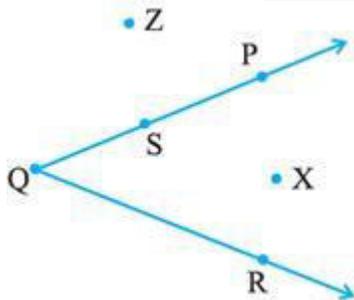
- a. Division by _____ is not defined.
 - b. A number remains unchanged when added to _____.
 - c. A number remains unchanged when multiplied to _____.
 - d. $13 \times 100 \times \underline{\quad} = 1300000$
13. **State true or false:**
- a. All natural numbers are whole numbers.
 - b. All whole numbers are natural numbers.
 - c. The predecessor of a two digit number is never a single digit number.
 - d. 1 is the smallest whole number.
14. How many whole numbers are there between 32 and 53?
15. Are all whole numbers also natural numbers?
16. Which of them is not a prime number?
- a. 23
 - b. 4
 - c. 11
 - d. 13
17. _____ is the factor of 68.
- a. 17
 - b. 6
 - c. 3
 - d. 5
18. The sum of two odd and one even numbers is

- a. Even of odd
 - b. Odd
 - c. even number
 - d. Prime
19. Which of the following is divisible by 3?
- a. 15287
 - b. 15267
 - c. 152638
 - d. 15286
20. The number of multiples of a given number is _____.
- a. None of these
 - b. infinite
 - c. 2
 - d. finite

21. Which of the pair of adjacent angles in the given figure?



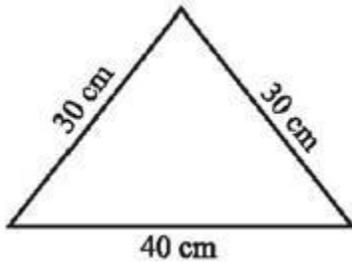
- a. $\angle B, \angle D$
 - b. $\angle B, \angle C$
 - c. None of these
 - d. $\angle A, \angle C$
22. How many lines pass through one given point?
- a. Two
 - b. One
 - c. Three
 - d. Count less
23. Point P is _____.



- a. in the exterior of the angle
- b. on the angle

- c. in the interior of the angle
 - d. away from the angle
24. Measure of the two angles between hour and minute hands of a clock at 9 O' clock are
- a. $270^\circ, 90^\circ$
 - b. $60^\circ, 300^\circ$
 - c. $75^\circ, 285^\circ$
 - d. $30^\circ, 330^\circ$
25. Radius of a circle is _____.
- a. half its diameter
 - b. thrice its diameter
 - c. one-fourth its diameter
 - d. 4 times its diameter.
26. Write numbers with appropriate signs: 40°C below 0°C temperature.
- a. 30
 - b. 40
 - c. -40
 - d. None of these
27. 2 subtracted from 7 gives
- a. -5
 - b. 5
 - c. -9
 - d. 9
28. Fill in the blanks with $>$, $<$ or $=$ sign. $(-3) + (-6)$ _____ $(-3) - (-6)$
- a. $<$
 - b. $>$
 - c. None of these
 - d. $=$
29. The number of integers between -2 and 2 is
- a. 3
 - b. 5
 - c. 4
 - d. 2
30. Sum of (-9) and 15.
- a. 90
 - b. -6
 - c. 6
 - d. 20

31. The side of a square is 12 m. Its perimeter is
- 144 m
 - 48 m
 - 24 m
 - 36 m
32. The shape of your class room blackboard is
- circle
 - equilateral triangle
 - square
 - rectangle
33. Which figure encloses more area: a square of side 2 cm ; a rectangle of side 3 cm and 2 cm ;An equilateral triangle of side 4 cm?
- None of these
 - square
 - equilateral triangle
 - rectangle
34. The perimeter of the given figure is



- 70 cm
 - None of these
 - 60 cm
 - 100 cm
35. The area of square is 100 cm^2 . Its side is
- 5 cm
 - 10 cm
 - 20 cm
 - 10.5 cm
36. Divide Rs 60 in the ratio 1 : 2 between Kirti and Kamal.
- Kirti = Rs 40, Kamal = Rs 20
 - Kirti = Rs 60, Kamal = Rs 30
 - Kirti = Rs 20, Kamal = Rs 40
 - Kirti = Rs 30, Kamal = Rs 60
37. Three terms a, b, c are said to be in proportion if
-
- $a:b = b:c$

- b. $b:a = c:a$
 - c. $a:b = c:b$
 - d. $c:a = a:b$
38. Find the ratio of 50 paise to Re 1?
- a. it is 1:3
 - b. it is 1:2
 - c. it is 2:1
 - d. None of these
39. The 30 : 45 is equivalent ratio of
- a. it is 1:3
 - b. it is 2:3
 - c. it is 1:2
 - d. it is 3:2
40. Ravi and Rani started a business and invested money in the ratio 2 : 3. After one year the total profit was Rs 40,000. What is the share of Ravi in profit?
- a. Rs 15000
 - b. Rs 24000
 - c. Rs 16000
 - d. Rs 20000

41. The multiplicative inverse of 0.9 is

a) $\frac{5}{9}$

b) $\frac{10}{9}$

c) $\frac{8}{9}$

d) $\frac{9}{10}$

42. How many rational numbers exist between -2 and 1?

a) 1

b) 2

c) 3

d) Infinite

43. Which of the following is an example of regular polygon?

a) Rhombus

b) Kite

c) Square

d) Rectangle

44. In the class interval 35-45, 45 is called

a) Upper limit

b) Lower limit

c) Range

d) Frequency

45. The units digit of the square of 327 will be

a) 7

b) 1

c) 4

d) 9

46. By which digit the cube of 27 ends?

a) 1

b) 2

c) 3

d) 4

47. When 35% is expressed as fraction, we get

a) $\frac{7}{20}$

b) $\frac{5}{17}$

c) 2.5

d) 35

48. Which of the following rational numbers have terminating decimal representation

(i) $\frac{3}{5}$ (ii) $\frac{2}{13}$

(iii) $\frac{40}{27}$ (iv) $\frac{23}{7}$

Ans. (i) $\frac{3}{5}$

49. How many rational numbers can be found between two distinct rational numbers?

(i) Two

(ii) Ten

(iii) Zero

(iv) Infinite

Ans. (iv) Infinite

50. The value of $(2+\sqrt{3})(2-\sqrt{3})$ is

(i) 1

(ii) -1

(iii) 2

(iv) none of these

Ans. (i) 1

51. $(27)^{-2/3}$ is equal to

(i) 9

(ii) $1/9$

(iii) 3

(iv) none of these

Ans. (ii) $1/9$

52. Every natural number is

(i) not an integer

(ii) always a whole number

(iii) an irrational number

(iv) not a fraction

Ans. (ii) always a whole number

53. Select the correct statement from the following

$$(i) \frac{7}{9} > \frac{4}{5} \quad (ii) \frac{2}{6} < \frac{3}{9}$$

$$(iii) \frac{-2}{3} > \frac{-4}{5} \quad (iv) \frac{-5}{7} < \frac{-3}{4}$$

Ans. $(iii) \frac{-2}{3} > \frac{-4}{5}$

54. $7.\bar{2}$ is equal to

$$(i) \frac{68}{9} \quad (ii) \frac{64}{9}$$

$$(iii) \frac{65}{9} \quad (iv) \frac{63}{9}$$

Ans. $(iii) \frac{65}{9}$

55. 0.83458456.....is

(i) an irrational number

(ii) rational number

(iii) a natural number

(iv) a whole number.

Ans. (i) an irrational number

56. A terminating decimal is

(i) a natural number

(ii) a rational number

(iii) a whole number

(iv) an integer.

Ans. (ii) a rational number

57. The $\frac{p}{q}$ form of the number 0.8 is

(i) $\frac{8}{10}$ (ii) $\frac{8}{100}$

(iii) $\frac{1}{8}$ (iv) 1

Ans. (i) $\frac{8}{10}$

58. The value of $\sqrt[3]{1000}$ is

(i) 1

(ii) 10

(iii) 3

(iv) 0

Ans. (ii) 10

59. The sum of rational and an irrational number

(i) may be natural

(ii) may be irrational

(iii) is always irrational

(iv) is always rational

Ans. (iii) is always irrational

60. The rational number not lying between $\frac{3}{5}$ and $\frac{2}{3}$ is

- (A) $\frac{49}{75}$ (B) $\frac{50}{75}$
(C) $\frac{47}{75}$ (D) $\frac{46}{75}$

Ans. (B) $\frac{50}{75}$

61. $0.12\bar{3}$ is equal to

(a) $\frac{122}{990}$

(b) $\frac{122}{100}$

(c) $\frac{122}{99}$

(d) None of these

Ans. (a) $\frac{122}{990}$

62. The number $(1+\sqrt{3})^2$ is

(a) natural number

(b) irrational number

(c) rational number

(d) integer

Ans. (b) irrational number

63. The simplest form of $\sqrt{600}$ is

(A) $10\sqrt{60}$ (B) $100\sqrt{6}$

(C) $20\sqrt{3}$ (D) $10\sqrt{6}$

Ans. (D) $10\sqrt{6}$

64. The value of $0.\overline{23} + 0.\overline{22}$ is

(A) $0.\overline{45}$ (B) $0.\overline{44}$

(C) $0.\overline{45}$ (D) $0.\overline{44}$

Ans. (A) $0.\overline{23} = 0.232323\dots$

$0.\overline{22} = 0.222222\dots$

$0.\overline{23} + 0.\overline{22} = 0.454545\dots$

$= 0.\overline{45}$

65. The value of $2^{\frac{1}{3}} \times 2^{-\frac{4}{3}}$ is

(A) 2 (B) $\frac{1}{2}$

(C) 3 (D) None of these

Ans. (B) $2^{\frac{1}{3}} \times 2^{\frac{-4}{3}} = 2^{\frac{1-4}{3}} = 2^{\frac{-3}{3}} = 2^{\frac{-1}{1}}$

$= 2^{-1} = \frac{1}{2}$

66. $16\sqrt{13} \div 9\sqrt{52}$ is equal to

(A) $\frac{3}{9}$

(B) $\frac{9}{8}$

(C) $\frac{8}{9}$

(D) None of these

Ans. $16\sqrt{13} \div 9\sqrt{52}$

$$\frac{16\sqrt{13}}{9\sqrt{52}} = \frac{16}{9} \times \frac{\sqrt{13}}{\sqrt{52}} = \frac{16}{9} \times \frac{1}{2} = \frac{8}{9}$$

67. $\sqrt{8}$ is an

(A) natural number

(B) rational number

(C) integer

(D) irrational number

Ans. (D) $\sqrt{8}$ is an irrational number

$$\because \sqrt{4 \times 2} = 2\sqrt{2}$$

68. Which of the following expression is a polynomial

(a) $x^3 - 1$

(b) $\sqrt{x+2}$

(c) $x^2 - \frac{1}{x^2}$

(d) $\sqrt{t+5t-1}$

Ans. (a) $x^3 - 1$

69. A polynomial of degree 3 in x has at most

(a) 5 terms

(b) 3 terms

(c) 4 terms

(d) 1 term

Ans. (b) 3 terms

70. The coefficient of x^2 in the polynomial $2x^3 + 4x^2 + 3x + 1$ is

(a) 2

(b) 3

(c) 1

(d) 4

Ans. (d) 4

71. The monomial of degree 50 is

(a) $x^{50} + 1$

(b) $2x^{50}$

(c) $x+50$

(d) 50

Ans. (b) $2x^{50}$

72. The point of intersection of X and Y axes is called

(a) zero point

(b) origin

(c) null point

(d) none of these

Ans. (b) origin

73. The distance of the point (-3, -2) from x-axis is

(a) 2 units

(b) 3 units

(c) 5 units

(d) $\sqrt{13}$ units

Ans. (a) 2 units

74. The distance of the point (-6, -2) from y-axis is

(a) 6 units

(b) $\sqrt{38}$ units

(c) 2 units

(d) 8 units

Ans. (a) 6 units

75. The abscissa and ordinate of the point with Co-ordinates (8, 12) is

(a) abscissa 12 and ordinate 8

(b) abscissa 8 and ordinate 12

(c) abscissa 0 and ordinate 20

(d) none of these

Ans. (a) abscissa 12 and ordinate 8

76. The co-ordinate of origin in

(a) (X, 0)

(b) (0, y)

(c) (0, 0)

(d) none of these.

Ans. (c) (0, 0)

77. The distance of the point (2,3) from y axis's

(A) 2 units

(B) 3 units

(C) 5 units

(D) $\sqrt{13}$ units

Ans. (A) 2 units

78. The point (-2, -1) lies in

(A) 1st quadrant

(B) 2nd quadrant

(C) 3rd quadrant

(D) 4th quadrant

Ans. (C) 3rd quadrant

79. The point (3,0) lies on

(A) +ve x axis

(B) -ve x axis

(C) +ve y axis

(D) -ve y axis

Ans. (A) +ve x axis

80. The distance of the point (3, 5) from x-axis is

(a) 3 units

(b) 4 units

(c) 5 units

(d) 6 units

Ans. (c) 5 units

81. The point (0, -5) lies on

(a) +ve x- axis

(b) +ve y- axis

(c) -ve x- axis

(d) -ve y-axis

Ans. (d) -ve y-axis

82. The point (-2, 5) lies in

(a) 1st quadrant

(b) 2nd quadrant

(c) 3rd quadrant

(d) 4th quadrant

Ans. (b) 2nd quadrant.

83. The distance of the point (3, 0) from x- axis is

(a) 3 units

(b) 0 units

(c) 9 units

(d) none of these

Ans. (a) 3 units.

84. Measurement of reflex angle is

(i) 90°

(ii) between 0° and 90°

(iii) between 90° and 180°

(iv) between 180° and 360°

Ans. (iv) between 180° and 360°

85. The sum of angle of a triangle is

(i) 0°

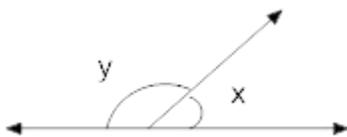
(ii) 90°

(iii) 180°

(iv) none of these

Ans. (iii) 180°

86. In fig if $x=30^\circ$ then $y=$



(i) 90°

(ii) 180°

(iii) 150°

(iv) 210°

Ans. (iii) 150°

87. If two lines intersect each other then

(i) vertically opposite angles are equal

(ii) corresponding angle are equal

(iii) alternate interior angle are equal

(iv) none of these

Ans. (i) vertically opposite angles are equal

88. The measure of Complementary angle of 63° is

(a) 30°

(b) 36°

(c) 27°

(d) none of there

Ans. (c) 27°

89. If two angles of a triangle is 30° and 45° what is measure of third angle

(a) 95°

(b) 90°

(c) 60°

(d) 105°

Ans. (d) 105°

90. The measurement of Complete angle is

(a) 0°

(b) 90°

(c) 180°

(d) 360°

Ans. (d) 360°

91. The measurement of sum of linear pair is

(a) 180°

(b) 90°

(c) 270°

(d) 360°

Ans. (a) 180°

92. The difference of two complementary angles is 40° . The angles are

(a) $65^\circ, 35^\circ$

(b) $70^\circ, 30^\circ$

(c) $25^\circ, 65^\circ$

(d) $70^\circ, 110^\circ$

Ans. (c) $25^\circ, 65^\circ$

93 Given two distinct points P and Q in the interior of $\angle ABC$, then \overline{AB} will be

(a) in the interior of $\angle ABC$

(b) in the interior of $\angle ABC$

(c) on the $\angle ABC$

(d) on the both sides of \overline{BA}

Ans. (c) on the $\angle ABC$

94. The complement of $(90-a)^\circ$ is

(a) $-a^\circ$

(b) $(90+2a)^\circ$

(c) $(90-a)^\circ$

(d) a°

Ans. (d) a°

95. The number of angles formed by a transversal with a pair of lines is

(a) 6

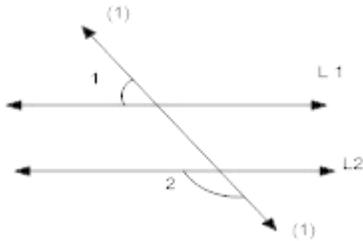
(b) 3

(c) 8

(d) 4

Ans. (c) 8

96. In fig $L_1 \parallel L_2$ And $\angle 1 = 52^\circ$ the measure of $\angle 2$ is.



(A) 38°

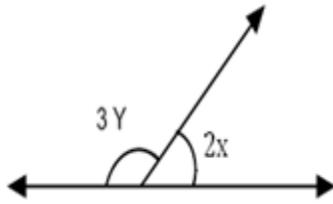
(B) 128°

(C) 52°

(D) 48°

Ans. (B) 128°

97. In fig $x = 30^\circ$ the value of Y is



(A) 10°

(B) 40°

(C) 36°

(D) 45°

Ans. (B) 40°

98. Which of the following pairs of angles are complementary angle?

(A) $25^\circ, 65^\circ$

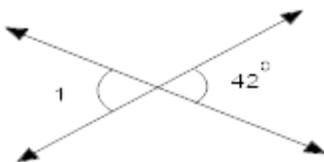
(B) $70^\circ, 110^\circ$

(C) $30^\circ, 70^\circ$

(D) $32.1^\circ, 47.9^\circ$

Ans. (A) $25^\circ, 65^\circ$

99. In fig the measure of $\angle 1$ is.



(A) 158°

(B) 138°

(C) 42°

(D) 48°

Ans. (C) 42°

100. In figure the measure of $\angle a$ is



(a) 30°

(b) 150°

(c) 15°

(d) 50°

Ans. (a) 30°

101. The correct statement is-

(a) A line segment has one end point only.

(b) The ray AB is the same as the ray BA.

(c) Three points are collinear if all of them lie on a line.

(d) Two lines are coincident if they have only one point in common.

Ans. (c) Three points are collinear if all of them lie on a line.

102. One angle is five times its supplement. The angles are-

(a) $15^\circ, 75^\circ$

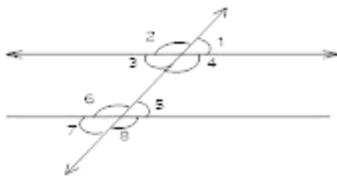
(b) $30^\circ, 150^\circ$

(c) $36^\circ, 144^\circ$

(d) $160^\circ, 40^\circ$

Ans. (b) $30^\circ, 150^\circ$

103. In figure if $m \parallel n$ and $\angle 1 : \angle 2 = 1 : 2$. The measure of $\angle 8$ is



(a) 120°

(b) 60°

(c) 30°

(d) 45°

Ans. (b) 60°

104. A quadrilateral ABCD is a parallelogram if

(a) $AB = CD$

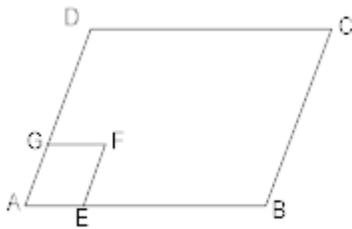
(b) $AB \parallel BC$

(c) $\angle A = 60^\circ, \angle C = 60^\circ, \angle B = 120^\circ$

(d) $AB = AD$

Ans. (c) $\angle A = 60^\circ, \angle C = 60^\circ, \angle B = 120^\circ$

105. In figure, ABCD and AEFG are both parallelogram if $\angle C = 80^\circ$, then $\angle DGF$ is



(a) 100°

(b) 60°

(c) 80°

(d) 120°

Ans. (c) 80°

106. In a square ABCD, the diagonals AC and BD bisect at O. Then $\triangle AOB$ is

(a) acute angled

(b) obtuse angled

(c) equilateral

(d) right angled

Ans. (d) right angled

107. ABCD is a rhombus. If $\angle ACB = 30^\circ$, then $\angle ADB$ is

(a) 30°

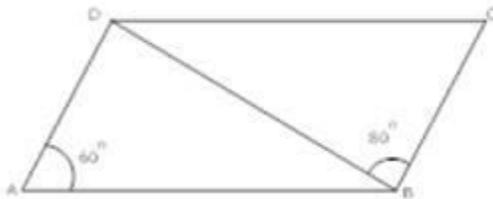
(b) 120°

(c) 60°

(d) 45°

Ans. (c) 60°

108. In fig ABCD is a parallelogram. If $\angle DAB = 60^\circ$ and $\angle DBC = 80^\circ$ then $\angle CDB$ is



(A) 80°

(B) 60°

(C) 20°

(D) 40°

Ans. (D) 40°

109. If the diagonals of a quadrilateral bisect each other, then the quadrilateral must be.

(a) Square

(b) Parallelogram

(c) Rhombus

(d) Rectangle

Ans. (b) Parallelogram

110. The diagonal AC and BD of quadrilateral ABCD are equal and are perpendicular bisector of each other then quadrilateral ABCD is a

(a) Kite

(b) Square

(c) Trapezium

(d) Rectangle

Ans. (b) Square

111. The quadrilateral formed by joining the mid points of the sides of a quadrilateral ABCD taken in order, is a rectangle if

(a) ABCD is a parallelogram

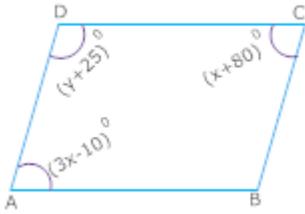
(b) ABCD is a right angle

(c) Diagonals AC and BD are perpendicular

(d) $AC=BD$

Ans. (a) ABCD is a parallelogram

112. In the fig ABCD is a Parallelogram. The values of x and y are



(a) 30, 35

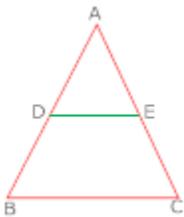
(b) 45, 30

(c) 45, 45

(d) 55, 35

Ans. (b) 45, 30

113. In fig if $DE=8$ cm and D is the mid-Point of AB, then the true statement is



(a) $AB=AC$

(b) $DE \parallel BC$

(c) E is not mid-Point of AC

(d) $DE \neq BC$

Ans. (c) E is not mid-Point of AC

114. The sides of a quadrilateral extended in order to form exterior angle. The sum of these exterior angle is

(a) 180°

(b) 270°

(c) 90°

(d) 360°

Ans. (d) 360°

115. ABCD is rhombus with $\angle ABC = 40^\circ$. The measure of $\angle ACD$ is

(a) 90°

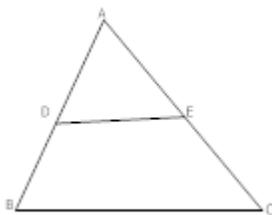
(b) 20°

(c) 40°

(d) 70°

Ans. b) 20°

116. In fig D is mid-point of AB and $DE \parallel BC$ then AE is equal to



(a) AD

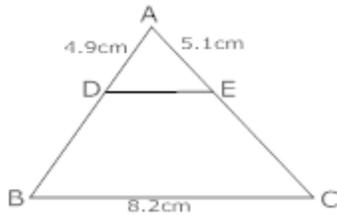
(b) EC

(c) DB

(d) BC

Ans. (b) EC

117. In fig D and E are mid-points of AB and AC respectively. The length of DE is



(a) 8.2 cm

(b) 5.1 cm

(c) 4.9 cm

(d) 4.1 cm

Ans. (d) 4.1 cm

118. A diagonal of a parallelogram divides it into

(a) two congruent triangles

(b) two similes triangles

(c) two equilateral triangles

(d) none of these

Ans. (a) two congruent triangles

119. A quadrilateral is a _____, if its opposite sides are equal:

(a) Kite

(b) trapezium

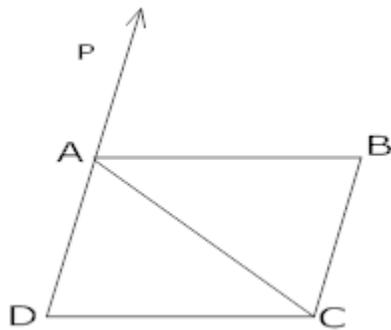
(c) cyclic quadrilateral

(d) parallelogram

Ans. (d) parallelogram

120. In the adjoining Fig. $AB = AC$. $CD \parallel BA$ and AD is the bisector of $\angle PAC$ prove that

(a) $\angle DAC = \angle BCA$ and



Ans. In $\triangle ABC$ $AB = AC$

$\Rightarrow \angle BCA = \angle BAC$ [Opposite angle of equal sides are equal]

$\angle CAD = \angle BCA + \angle ABC$ [Exterior angle]

$\Rightarrow \angle PAC = \angle BCA$

Now $\angle PAC = \angle BCA$

$\Rightarrow AP \parallel BC$

Also $CD \parallel BA$ Given)

$\therefore ABCD$ is a parallelogram

(ii) ABCD is a parallelogram

121. Which of the following is not a parallelogram?

- (a) Rhombus
- (b) Square
- (c) Trapezium
- (d) Rectangle

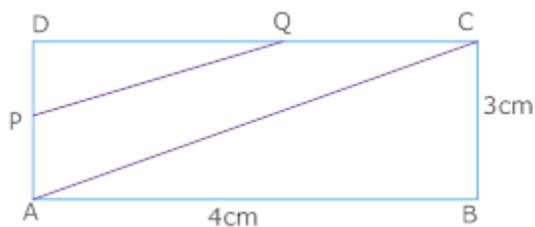
Ans. (c) Trapezium

122. The sum of all the four angles of a quadrilateral is

- (a) 180°
- (b) 360°
- (c) 270°
- (d) 90°

Ans. (b) 360°

123. In Fig ABCD is a rectangle P and Q are mid-points of AD and DC respectively. Then length of PQ is



(a) 5 cm

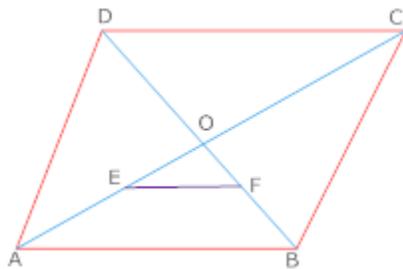
(b) 4 cm

(c) 2.5 cm

(d) 2 cm

Ans. (c) 2.5 cm

124. In Fig ABCD is a rhombus. Diagonals AC and BD intersect at O. E and F are mid points of AO and BO respectively. If AC = 16 cm and BD = 12 cm then EF is



(a) 10 cm

(b) 5 cm

(c) 8 cm

(d) 6 cm

Ans. (b) 5 cm

125. An angle in the semicircle is

(a) Right angle

(b) 180°

(c) 360°

(d) none of these

Ans. (a) Right angle

126. If the angles subtended by two chords of a circle at the centre are equal then the chords are

- (a) not equal**
- (b) equal**
- (c) angle equal**
- (d) line equals**

Ans. (b) equal

127. How many circle passing through three non-collinear points

- (a) one**
- (b) two**
- (c) three**
- (d) four**

Ans. (a) one

128. The constant distance is called

- (a) diameter**
- (b) radius**
- (c) centre**
- (d) circle**

Ans. b) radius

129. PS and RS are two chord's of a circle such that PQ=10cm and RS=24cm and PQ||RS. The distance between PQ and RS is 17cm. Find the radius of circle

- (a) 10cm
- (b) 13cm
- (c) 15cm
- (d) none of these

Ans. (b) 13cm

130. A circle is drawn. It divides the plane into

- (a) 3 Parts
- (b) 4 Parts
- (c) 5 Parts
- (d) No Parts

Ans. (a) 3 Parts

131. The relation between diameter and radius of a circle is

- (a) $r=2d$
- (b) $d=r$
- (c) $d=2r$
- (d) $d=2\pi r$

Ans. (c) $d=2r$

132. If P and Q are any two Points on a circle then PQ is called a

(a) diameter

(b) secant

(c) chord

(d) radius

Ans. c) chord

133. What is a diameter

(a) $r = 2d$

(b) $d = 2\pi r$

(c) $d = r$

(d) $d = 2r$

Ans. (d) $d = 2r$

134. Two point on a circle shows the

(a) radius

(b) chord

(c) secant

(d) diameters

Ans. b) chord

135. The whole arc of a circle is called

(a) circumference

(b) semi-circle

(c) sector

(d) segment

Ans. (a) circumference

136. One half of the whole arc of a circle

(a) semi-circle

(b) circumference

(c) segment

(d) sector

Ans. (a) semi-circle

137. Circle having same centre are said to be

(a) Concentric

(b) circle

(c) chord

(d) secant

Ans. (a) Concentric

138. The line which meet a circle in two points is called a

(a) chord of circle

(b) diameter

(c) radius

(d) secant of circle

Ans. (d) secant of circle

139. The sum of either pair of opposite angle of cyclic quadrilateral is

(a) 360°

(b) 90°

(c) 180°

(d) 270°

Ans. c) 180°

140. Two circle are congruent if they have equal.

(a) diameter

(b) radius

(c) chord

(d) secant

Ans. (b) radius

141. Which equation is show the diameter of circle

(a) $d = 2r$

(b) $d = r$

(c) $d = 2\pi r$

(d) $r = 2d$

Ans. (a) $d = 2r$

142. $\frac{1}{2}$ of the whole circle shows
(a) semi-circle

(b) circumference

(c) sector

(d) segments

Ans. (a) semi-circle

143. Two circle are congruent if they have equal

(a) radius

(b) diameter

(c) chord

(d) secant

Ans. (a) radius

144. If the perimeter of one of the faces of a cube is 40 cm, then its volume is

(a) 6000 cu cm

(b) 1600 cu cm

(c) 1000 cu cm

(d) 600 cu cm

Ans. (c) 1000 cu cm

145. A cuboid having surface areas of 3 adjacent faces as a, b and c has the volume

(a) $3\sqrt{abc}$

(b) \sqrt{abc}

(c) abc

(d) $a^3 b^3 c^3$

Ans. (b) \sqrt{abc}

146. The diameter of a right circular cylinder is 21 cm and its height is 8 cm. The Volume of the cylinder is

(a) 528 cu cm

(b) 1056 cu cm

(c) 1386 cu cm

(d) 2772 cu cm

Ans. (d) 2772 cu cm

147. Each edge of a cube is increased by 40%. The % increase in the surface area is.

(a) 40

(b) 96

(c) 160

(d) 240

Ans. (b) 96

148. Find the curved (lateral) surface area of each of the following right circular cylinders:

(a) $2\pi rh$

(b) πrh

(c) $2\pi r(r+h)$

(d) None of these

Ans. (a) $2\pi rh$

149. The radius and height of a right circular cylinder are each increased by 20%. The volume of cylinder is increased by-

(a) 20%

(b) 40%

(c) 54%

(d) 72.8%

Ans. (d) 72.8%

150. A well of diameter 8 meters has been dug to the depth of 21 m. the volume of the earth dug out is

(a) 1056 cu m

(b) 352 cu m

(c) 1408 cu m

(d) 4224 cu m

Ans. (a) 1056 cu m

151. The radius of a cylinder is doubled and the height remains the same. The ratio between the volumes of the new cylinder and the original cylinder is

(a) 1:2

(b) 1:3

(c) 1:4

(d) 1:8

Ans. (c) 1:4

152. Length of diagonals of a cube of side a cm is

(i) $\sqrt{2}a$ cm

(ii) $\sqrt{3}a$ cm

(iii) $\sqrt{3}a$ cm

(iv) 1 cm

Ans. (ii) $\sqrt{3}a$ cm

153. Surface area of sphere of diameter 14 cm is

(i) 616 cm²

(ii) 516 cm^2

(iii) 400 cm^2

(iv) 2244 cm^2

Ans. (i) 616 cm^2

154. Surface area of bowl of radius r cm is

(i) $4\pi r^2$

(ii) $2\pi r^2$

(iii) $3\pi r^2$

(iv) πr^2

Ans. (iii) $3\pi r^2$

155. Volume of a sphere whose radius 7 cm is

(i) $1437\frac{1}{3} \text{ cm}^3$

(ii) $1337\frac{1}{3} \text{ cm}^3$

(iii) 1430 cm^3

(iv) 1447 cm^3

Ans. (i) $1437\frac{1}{3} \text{ cm}^3$

156. Volume of spherical shell

(i) $\frac{2}{3}\pi r^3$

(ii) $\frac{3}{4}\pi r^3$

(iii) $\frac{4}{3}\pi[R^3 - r^3]$

(iv) none of these

Ans. (iii) $\frac{4}{3}\pi[R^3 - r^3]$

157. The area of the three adjacent faces of a cuboid are x,y,z. Its volume is V, then

(i) $V = xyz$

(ii) $V^2 = xyz$

(iii) $V = x^2y^2z^2$

(iv) none of these

Ans. (ii) $V^2 = xyz$

158. A conical tent is 10 m high and the radius of its base is 24 m then slant height of the tent is

(i) 26

(ii) 27

(iii) 28

(iv) 29

Ans. (i) 26

159. Volume of hollow cylinder

(i) $\pi(R^2 - r^2)h$

(ii) $\pi R^2 h$

(iii) $\pi r^2 h$

(iv) $\pi r^2 (h_1 - h_2)$

Ans. (i) $\pi(R^2 - r^2)h$

160. Diameter of the base of a cone is 10.5 cm and its slant height is 10 cm. then curved surface area.

(i) 155 cm^2

(ii) 165 cm^2

(iii) 150 cm^2

(iv) none of these

Ans. (ii) 165 cm^2

161. The surface area of a sphere of radius 5.6 cm is

(i) $96.8 \pi \text{ cm}^2$

(ii) $94.08\pi cm^2$

(iii) $90.08\pi cm^2$

(iv) none of these

Ans. (ii) $94.08\pi cm^2$

162. The height and the slant height of a cone are 21 cm and 28 cm respectively then volume of cone

(i) $7556 cm^3$

(ii) $7646 cm^3$

(iii) $7546 cm^3$

(iv) none of these

Ans. (c) $7546 cm^3$

163. If the mean of 2, 4, 6, 8, x, y is 5 then find the value of x+y.

Ans. 10

164. Write the class mark of 90-110 group.

Ans. 2

165. If the ratio of mean and median of a certain data is 2:3, then find the ratio of its mode and mean.

Ans. 3

166. Tally marks are used to find

Ans. Frequency

**167. The following marks were obtained by the students in a test.
81, 72, 90, 90, 86, 85, 92, 70, 71, 83, 89, 95, 85, 79, 62
What is the range?**

Ans. 33

168. In a histogram, each class rectangle is constructed with base as

- (a) frequency**
- (b) class interval**
- (c) range**
- (d) size of the class**

Ans. (b) class interval

169. Find the range of the following data: 25, 20 30, 18, 16, 15

- (a) 15**
- (b) 10**
- (c) 5**
- (d) 20**

Ans. (a) 15

170. Find the median of the given data: 7, 8, 7, 7, 9, 10, 13.

- (a) 7**
- (b) 9**
- (c) 8**
- (d) 10**

Ans. (c) 8

171. Find the mode of the given data: 7, 9, 11, 13, 9, 13, 9, 9, 7, 8.

- (a) 10**
- (b) 9**
- (c) 11**
- (d) 8**

Ans. (b) 9

172. Find the mean of the first five multiples of 3?

- (a) 9**
- (b) 12**
- (c) 14**
- (d) None of these**

Ans. (a) 9

173. What is the upper limit of the interval: 20 – 23?

- (a) 20**
- (b) 23**
- (c) 22**
- (d) None of these**

Ans. (b) 23

174. What is class size of interval 10, 12, 14, 16, 18?

- (a) 2**
- (b) 1**
- (c) 10**
- (d) 18**

Ans. (a) 2

175. Find the class mark of the interval 15.7 – 25.7?

- (a) 15.3**
- (b) 16.3**
- (c) 17.3**
- (d) 20.7**

Ans. (d) 20.7

176. What is the mid – points of class interval 12.3 – 22.3?

- (a) 17.3**
- (b) 15.3**
- (c) 18.3**
- (d) 16.3**

Ans. (a) 17.3

177. What is the class Mark of the interval 15-20?

- (A) 15**
- (B) 20**
- (C) 17.5**
- (D) none of these**

Ans. (C) 17.5

178. What is the range of interval 15-20?

- (A) 5**
- (B) 10**
- (C) 15**
- (D) none of these**

Ans. (A) 5

179. What is the class – size of the interval 15-20?

- (A) 5**
- (B) 10**
- (C) 15**
- (D) none of these**

Ans. (A) 5

180. Find out the mean of following data. 5, 10, 15, 20, 25, 30,

- (A) 16.5**
- (B) 17.5**
- (C) 18.5**
- (D) none of these**

Ans. (B) 17.5

181. Find the arithmetic mean of first 6 natural numbers?

- (a) 3.5**
- (b) 4.5**
- (c) 2.5**
- (d) none of these**

Ans. (a) 3.5

182. What is the mid-point of interval 3-6?

- (a) 3.5**
- (b) 4.5**
- (c) 5.5**
- (d) none of these**

Ans. (b) 4.5

183. Find out the range of the following: 5, 10, 15, 20, 25, 30

- (a) 25**
- (b) 20**
- (c) 30**
- (d) none of these**

Ans. (a) 25

184. Find out the mode of the following: 5, 4, 3, 5, 6, 6, 6, 5, 4, 5, 5, 3, 2, 1

- (a) 6**
- (b) 4**
- (c) 5**
- (d) none of these**

Ans. (c) 5

185. What is the class size of the intervals 10-20?

- (a) 10**
- (b) 5**
- (c) 15**
- (d) 20**

Ans. (a) 10

186. What is the upper class limit of the class 37-43?

- (a) 37**
- (b) 40**
- (c) 43**
- (d) none of these**

Ans. (c) 43

187. What is the lower class limit of the class 37-43?

- (a) 37
- (b) 40
- (c) 43
- (d) none of these

Ans. (a) 37

188. Find the median of the following data: 15, 35, 18, 26, 19, 25, 29, 20, 27, 30,

- (a) 25.5
- (b) 24.5
- (c) 26.5
- (d) none of these

Ans. (a) 25.5

Answer

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

6.

c. 2002

Explanation: successor of 2001 is 2002 as

7.

c. 1

Explanation: 1 is a natural number has no predecessor as $1 - 1 = 0$ which is not a natural number

8.

c. 0

Explanation: smallest whole number is zero as whole number is a collection of zero and all natural numbers. and all natural numbers are greater than zero.

9.

c. $123 \times 8 + 3 = 987$

Explanation: $1 \times 8 + 1 = 9$

$12 \times 8 + 2 = 98$

$123 \times 8 + 3 = 987$

As the digit of the 1st number increasing gradually like 1, 12, 123 and the last digit of equation is also increasing like 1, 2, 3 so next pattern will be $123 \times 8 + 3 = 987$

And the sum is also in decreasing order like 9, 98, 987

So the next pattern is $123 \times 8 + 3 = 987$

10.

c. >

Explanation: $460 > 406$ as

11.

3. - c

4. - a

5. - d

6. - b

12.

a. 0

b. zero

c. 1

d. 1000

13.

e. True

f. False, every whole number except 0 is a natural number.

g. False, the predecessor of 10 is 9.

h. True

14. There are 20 whole numbers between 32 and 53. These are 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51 and 52.

15. No, all whole numbers are not natural numbers. (0 is a whole number but not a natural number.)

Answer

16.

b. 4

Explanation: 4 is not a prime number as it has more than 2 factors.

17.

b. 17

Explanation: $68 = 2 \times 2 \times 17$. Therefore 17 is the factor of 68.

18.

b. even number

Explanation: The sum of two odd numbers is always an even number.

Sum of two even numbers is even number. So when two odd numbers and one even number added is even number.

For ex. $1 + 3 = 4$ (even number) and $6 + 4 = 10$ (even number)

19.

b. 15267

Explanation: 15267 is correct response.

If you add the digits of the number i.e. $1+5+2+6+7=21$, the sum is the multiple of 3. Therefore, the number is divisible by 3

20.

b. infinite

Explanation: The multiple of any number is infinite as a number can be multiplied till infinite

Answer

21.

b. $\angle B$, $\angle C$

Explanation: Adjacent angles have a common side. In this figure side BC contain two angles which are angle B and angle C making them adjacent angles.

22.

b. Count less

Explanation: through a single point infinite number of lines can be passed by Euclid's axiom.

23.

b. on the angle

Explanation: point P lies on the ray QP of the angle therefore P is on the angle

24.

- b. (a) $270^\circ, 90^\circ, 270^\circ, 90^\circ$
Explanation:

$$270^\circ, 90^\circ, 270^\circ, 90^\circ$$

25.

- b. half its diameter

Explanation: Radius is from the center of the circle to the circle's edge.
The diameter is edge to edge with the line going through the radius.
Diameter is twice the length of the radius or $2r$ where r is the radius of the circle.

Answer

26.

- c. (c) -40

Explanation: below means less than 0 so it is - 40

27.

- c. 5

Explanation: $7 - 2 = 5$

28.

- c. <

Explanation: $-3 - 6 = -9$

$-3 - (-6) = -3 + 6 = 6 - 3 = 3$

so $-9 < 3$

29.

- c. (a) 3

Explanation: intergers between -2 and 2 are -1, 0, 1 so 3 integers

30.

- c. 6

Explanation: $-9 + 15 = 15 - 9 = 6$

Answer

31.

- b. (b) 48 m, Explanation: Perimeter of square = $4l$
here length = 12 m
so, the perimeter = $4 * 12$
= 48 m

32.

b. (d) rectangle, Explanation: Shape of the blackboard in class room is rectangle as the length of the blackboard is more than the breadth it.

33.

b. (c) equilateral triangle, Explanation: Area of square = $l \times l \times l$, when $l = 2 \text{ cm}$, Area = 4 cm^2

Area of rectangle = $l \times b \times b$, when $l = 3 \text{ cm}$ and $b = 2 \text{ cm}$, Area = $3 \times 2 \times 2 = 6 \text{ cm}^2$

Area of an equilateral triangle = $(\frac{\sqrt{3}}{4})a^2$, when $a = 4 \text{ cm}$, Area = 6.93 cm^2

so, the area of equilateral triangle is more

34.

b. (d) 100 cm, Explanation: Perimeter means addition of all sides. So Perimeter of given triangle = $30 + 30 + 40 = 100 \text{ cm}$

35.

b. (b) 10 cm, Explanation: Area of square = $l \times l$ here area = 100 cm^2 so the length is = $l = \sqrt{100} = 10 \text{ cm}$

Answer

36.

c. Kirti = Rs 20, Kamal = Rs 40

Explanation: ratio = 1 : 2

\therefore the total parts is $1+2=3$

37.

c. $a:b = b:c$

38.

c. it is 1:2

39.

c. it is 2:3

40.

c. (c) Rs 16000

41.b 42.d 43.c 44.a 45.d 46.c 47.a