

Holidays Home work

Class: IX

Activity :

- Construct a Square Root Spiral .
- Represent $\sqrt{10}$ and $\sqrt{5}$ on number line.
- Draw 2D Diagram of your dining room on Cartesian plain, taking from the top. Showing different furniture on the room. Measure length and breadth of the room and write the co-ordinate of corner of the furniture
- **Project: Select any one topic out of the following two topics of Ganit Manjari and go through the chapter from the book thoroughly and prepare project file under following heads.**
 - (i) Introduction of the topic
 - (ii) Relevance/objective of the topic
 - (iii) Different contains (sub topic) with appropriate Examples
 - (iv) Application
 - (v) Conclusions
 - (vi) Bibliography

Topics are as follows

- (i) The Mathematics of Maybe: Introduction to Probability (chapter 7)
- (ii) Predicting What Comes Next: Exploring Sequences and Progressions(chapter 8)

Practice questions

1) Express the following as a fraction in the simplest form.

- (i) 2.23 (ii) 3.123 (iii) 1.3

2) Write 5 irrational numbers between $\frac{1}{3}$ and $\frac{1}{2}$

3) Rationalise the denominator of the following

- (i) $\frac{\sqrt{5}-2}{\sqrt{5}+2}$ (ii) $\frac{2}{\sqrt{3}-2}$ (iii) $\frac{\sqrt{5}-2}{\sqrt{3}+2}$ (iv) $\frac{1}{\sqrt{2}+\sqrt{3}+\sqrt{5}}$

4) If $x = (2 + \sqrt{3})$, find the value of (i) $x + \frac{1}{x}$ (ii) $x^2 + \frac{1}{x^2}$

5) Show that: $\frac{1}{3-\sqrt{8}} - \frac{1}{\sqrt{8}-\sqrt{7}} + \frac{1}{\sqrt{7}-\sqrt{6}} - \frac{1}{\sqrt{6}-\sqrt{5}} + \frac{1}{\sqrt{5}-2} = 5$

Multiple choice questions

6) The x-coordinate is also called:

- A) Ordinate
- B) Abscissa

- C) Origin
 - D) Axis
- 7) **Point (3, -4) lies in:**
- A) I Quadrant
 - B) II Quadrant
 - C) III Quadrant
 - D) IV Quadrant
- 8) **Distance of point (-3,-4) from origin:**
- A) 5
 - B) 6
 - C) 7
 - D) 4
- 9) **Distance between (-1,2) and (3,2):**
- A) 4
 - B) 5
 - C) 6
 - D) 7
- 10) **Midpoint of (-2,2) and (2,6):**
- A) (0,4)
 - B) (1,4)
 - C) (0,2)
 - D) (2,4)
- 11) **Find centre if endpoints of diameter are (2,2) and (6,6).**
- A) (4,4)
 - B) (3,3)
 - C) (5,5)
 - D) (2,4)
- 12) **If midpoint of a line segment is (3,3) and one end point is (1,1), find other end point.**
- A) (5,5)
 - B) (4,4)
 - C) (3,5)
 - D) (2,2)
- 13) **Midpoint of (a,b) and (-a,-b):**
- A) (0,0)
 - B) (a,b)
 - C) (-a,-b)
 - D) (1,1)
- 14) **If a point lies on y-axis, its x-coordinate is**
- B) 0
- A) 1

- C) -1
- D) Any number

15) **If midpoint is (0,0), endpoints are:**

- A) Same sign
- B) Opposite sign
- C) Both positive
- D) Both negative

16) **The point whose ordinate is 4 and which lies on y-axis is:**

- A) (4, 0)
- B) (0, 4)
- C) (1, 4)
- D) (4, 2)

17) **Which of the points P(0, 3), Q(1, 0), R(0, -1), S(-5, 0), T(1, 2) do not lie on the x-axis?**

- A) P AND R ONLY
- B) Q AND S ONLY
- C) P, R AND T
- D) Q, S AND T

18) **The point which lies on y-axis at a distance of 5 units in the negative direction of y-axis is:**

- A) (0, 5)
- B) (5, 0)
- C) (0, -5)
- D) (-5, 0)

19) **If the co-ordinates of a point are (-5, 6), the perpendicular distance of the point from y-axis is:**

- A) 5 UNITS
- B) 6 UNITS
- C) 7 UNITS
- D) 7.5 UNITS

20) **If the distance between the points (2, -2) and (-1, x) is 5, one of the value of x is:**

- A) -2
- B) 2
- C) -1
- D) 1

21) **AOBC is a rectangle whose three vertices are A(0, 3), O(0, 0) and B(5, 0). The length of its diagonal is:**

- A) 5
- B) 3

C) $\sqrt{34}$

D) 4

22) **The points $(-4, 0)$, $(4, 0)$ and $(0, 3)$ are the vertices of a:**

A) Right triangle

B) Isosceles triangle

C) Equilateral triangle

D) Scalene triangle

23) **The point which lies on the perpendicular bisector of the line segment joining the points $A(-2, -5)$ and $B(2, 5)$ is:**

A) $(0, 0)$

B) $(0, 2)$

C) $(2, 0)$

D) $(-2, 0)$

24) **The fourth vertex D of a parallelogram $ABCD$ whose three vertices are $A(-2, 3)$, $B(6, 7)$ and $C(8, 3)$ is:**

A) $(0, 1)$

B) $(0, -1)$

C) $(-1, 0)$

D) $(1, 0)$

25) **The points $A(9, 0)$, $B(9, 6)$, $C(-9, 6)$ and $D(-9, 0)$ are the vertices of a:**

A) Square

B) Rectangle

C) Rhombus

D) Trapezium

26) . **Which of the following is a rational number?**

A) $\sqrt{2}$

B) $\sqrt{5}$

C) 0.25

D) π

27) . **The decimal expansion of $1/3$ is:**

A) Terminating

B) Non-terminating recurring

C) Non-recurring

D) Irrational

28) . **$\sqrt{16}$ is equal to:**

A) 4

B) -4

- C) ± 4
- D) 8

29) . Which of the following is irrational?

- A) 0.333...
- B) $\frac{22}{7}$
- C) $\sqrt{7}$
- D) $\frac{5}{2}$

30). The product of a rational and an irrational number is:

- A) Always rational
- B) Always irrational
- C) Sometimes rational
- D) None

31) . Which of the following is a terminating decimal?

- A) $\frac{1}{6}$**
- B) $\frac{1}{7}$
- C) $\frac{3}{8}$
- D) $\frac{2}{3}$

32) . The value of $\sqrt{49}$ is:

- A) 7
- B) -7
- C) ± 7
- D) 14

33) . π is:

- A) Rational
- B) Irrational
- C) Integer
- D) Whole number

35) . The square root of a negative number is:

- A) Real
- B) Rational
- C) Not real
- D) Integer

36) . A point lies in the second quadrant and is equidistant from both axes. What can be its coordinates?

- (a) (3, -3)
- (b) (-4, 4)
- (c) (5, 5)
- (d) (-5, -5)

37) . If the coordinates of a point are (x, x), then the point always lies on:

- (a) x-axis
- (b) y-axis
- (c) Line $y = x$
- (d) Line $x = y + 1$

38) . Which of the following points lies exactly halfway between (2, 3) and (6, 7)?

- (a) (4, 5)
- (b) (3, 5)
- (c) (5, 4)
- (d) (2, 2)

39). If the abscissa and ordinate of a point are equal in magnitude but opposite in sign, then the point lies on:

- (a) x-axis
- (b) $y = x$
- (c) $y = -x$
- (d) $y = 0$

40) The point (a, b) lies in the third quadrant. Which of the following must be true?

- (a) $a > 0$ and $b > 0$
- (b) $a < 0$ and $b > 0$
- (c) $a > 0$ and $b < 0$
- (d) $a < 0$ and $b < 0$

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