



A Hollow Integer Grid

A. Choose the Correct Answer:

1. Which of the following points lies in the 4th quadrant of an integer grid?

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

2. The point $(0, -5)$ lies on the:

- | | |
|-----------|-----------------|
| a) x-axis | b) y-axis |
| c) Origin | d) 1st quadrant |

3. If a point is reflected across the y-axis, $(5, -3)$ becomes:

- | | |
|---------------|--------------|
| a) $(-5, -3)$ | b) $(5, 3)$ |
| c) $(-5, 3)$ | d) $(3, -5)$ |

4. The coordinates of origin are:

- | | |
|-------------|-------------|
| a) $(0, 1)$ | b) $(1, 0)$ |
| c) $(1, 1)$ | d) $(0, 0)$ |

5. In which quadrant does the point $(-2, +4)$ lie?

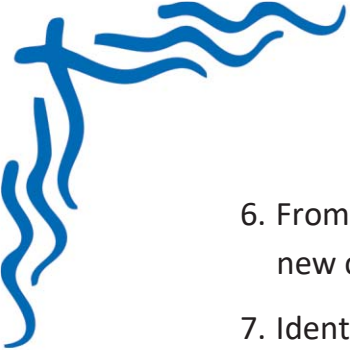
- | | |
|--------|-------|
| a) I | b) II |
| c) III | d) IV |

B. Write the Missing Terms to Complete the Sentences:

1. The horizontal line in a grid is called the _____.
2. The vertical line in a grid is called the _____.
3. The point where x and y axes intersect is called the _____.
4. $(-4, 0)$ lies on the _____ axis.
5. In the 3rd quadrant, both x and y coordinates are _____.

C. Figure out the answers to these questions:

1. Plot the following points on a grid: $(2, 3)$, $(-2, 3)$, $(-2, -3)$, $(2, -3)$. What figure do they form?
2. What is the mirror image of the point $(-4, 5)$ across the y-axis?
3. Write the coordinates of a point that lies 4 units to the right of the origin and 2 units down.
4. Find the quadrant in which the point $(-6, -1)$ lies.
5. A point lies on the x-axis and is 6 units to the left of the origin. Write its coordinates.



6. From point A $(2, -3)$, a person moves 3 units up and 2 units left. What are the new coordinates?
7. Identify whether the point $(0, 7)$ lies in any quadrant or on an axis. Explain.
8. A square is formed by the points $(2, 2)$, $(2, -2)$, $(-2, -2)$, and $(-2, 2)$. Mark its center and write its coordinates.

D. Mark each sentence with a True (✓) or False (X):

1. The y-coordinate is written before the x-coordinate. ☐
2. A point in the second quadrant has a negative x-value and a positive y-value. ☐
3. The point $(-5, -5)$ lies in the third quadrant. ☐
4. Coordinates of all points on the x-axis have their y-value as zero. ☐
4. A point with both coordinates positive lies in the first quadrant. ☐

E. Challenge yourself with these questions:

1. Draw a hollow grid from -5 to $+5$ on both axes and mark the points $(-3, 2)$, $(4, -1)$, and $(0, 0)$.
2. Starting from the origin, a person moves 5 steps right and 3 steps up. Write the coordinates of the final position.
3. A point lies in the fourth quadrant and is 6 units away from both axes. Write two possible coordinates.
4. Plot a triangle with vertices $(-2, -2)$, $(0, 3)$, and $(2, -1)$. Identify the quadrants they lie in.
5. From point B $(-4, -2)$, a student moves 4 steps up and 2 steps right. What is the final position?
6. Create a small puzzle where students have to find the missing point to complete a square on a grid using three given coordinates.