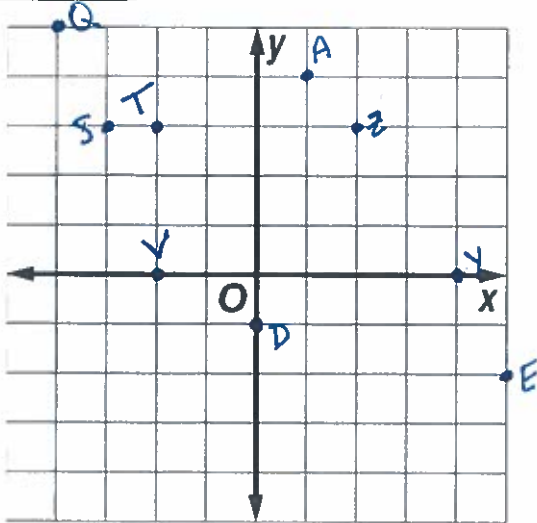


5-7 Graph on the Coordinate Plane

How to graph a coordinate:

1. Always start at the **origin**.
2. Move along the **X-AXIS** in the positive or negative direction according to the number in the x coordinate spot.
3. Move along the **Y-AXIS** in the positive or negative direction according to the number in the y coordinate spot.
4. Place your dot on the coordinate.

Examples:



A (1, 4)

E (5, -2)

T (-2, 3)

Z (2, 3)

Q (-4, 5)

Y (4, 0)

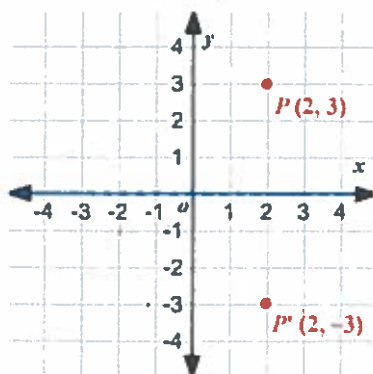
S (-3, -3)

V (-2, 0)

D (0, -1)

Reflections

- **Reflection** – mirror image that is created when a figure is flipped over a line.



- **Original:**

– $P = (2, 3)$

- **Reflection:**

– $P' = (2, -3)$

When you rotate over the **x-axis** the **y coordinate** becomes the **opposite** number.

$$-(x, y) = (x, -y) \quad \text{OR} \quad (x, -y) = (x, y)$$

When you rotate over the **y-axis** the **x coordinate** becomes the **opposite** number.

$$-(x, y) = (-x, y) \quad \text{OR} \quad (-x, y) = (x, y)$$

How to graph the reflection

Determine if you are being asked to reflect over the x axis or y axis.

Reflection over the X-AXIS

1. The x coordinate **stays the same**.
2. Take the **opposite** of the y coordinate.
3. Use your new coordinate to graph.
4. Make sure to indicate the new point is the reflection.

Reflection over the Y-AXIS

1. The y coordinate **stays the same**.
2. Take the **opposite** of the x coordinate.
3. Use your new coordinate to graph.
4. Make sure to indicate the new point is the reflection.

Examples:

Graph $W(1, -3)$ and reflect it across the x-axis.

Graph $O(-4, 0)$ and reflect it across the y-axis

Graph $N(-3, -4)$ and reflect it across the y-axis

Graph $C(4, 2)$ and reflect it across the x-axis

