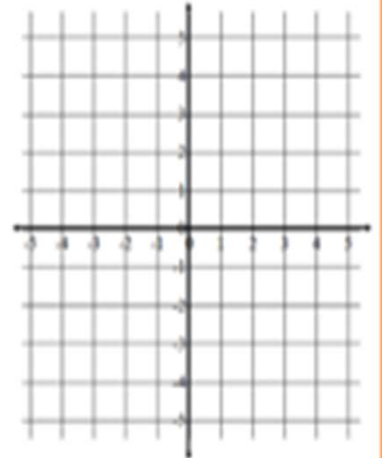


# Coordinate Geometry Worksheets

## Extending Opposite Numbers to the Coordinates of Points on the Coordinate Plane

Locate and label your points on the coordinate plane to the right. For each given pair of points in the table below, record your observations and conjectures in the appropriate cell. Pay attention to the absolute values of the coordinates and where the points lie in reference to each axis.



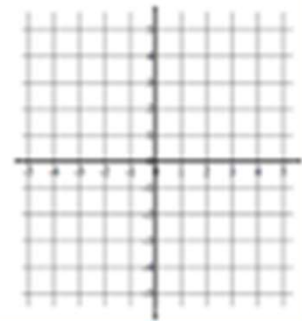
	$(3, 4)$ and $(-3, 4)$	$(3, 4)$ and $(3, -4)$	$(3, 4)$ and $(-3, -4)$
Similarities of Coordinates			
Differences of Coordinates			
Similarities in Location			
Differences in Location			
Relationship Between Coordinates and Location on the Plane			

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	$(3, 4)$ and $(-3, 4)$	$(3, 4)$ and $(3, -4)$	$(3, 4)$ and $(-3, -4)$
Similarities of Coordinates	<p><i>Same y-coordinates</i></p> <p><i>The x-coordinates have the same absolute value.</i></p>	<p><i>Same x-coordinates</i></p> <p><i>The y-coordinates have the same absolute value.</i></p>	<p><i>The x-coordinates have the same absolute value.</i></p> <p><i>The y-coordinates have the same absolute value.</i></p>
Differences of Coordinates	<p><i>The x-coordinates are opposite numbers.</i></p>	<p><i>The y-coordinates are opposite numbers.</i></p>	<p><i>Both the x- and y-coordinates are opposite numbers.</i></p>
Similarities in Location	<p><i>Both points are 4 units above the x-axis and 3 units away from the y-axis.</i></p>	<p><i>Both points are 3 units to the right of the y-axis and 4 units away from the x-axis.</i></p>	<p><i>Both points are 3 units from the y-axis and 4 units from the x-axis.</i></p>
Differences in Location	<p><i>One point is 3 units to the right of the y-axis; the other is 3 units to the left of the y-axis.</i></p>	<p><i>One point is 4 units above the x-axis; the other is 4 units below.</i></p>	<p><i>One point is 3 units right of the y-axis; the other is 3 units left. One point is 4 units above the x-axis; the other is 4 units below.</i></p>
Relationship Between Coordinates and Location on the Plane	<p><i>The x-coordinates are opposite numbers, so the points lie on opposite sides of the y-axis. Because opposites have the same absolute value, both points lie the same distance from the y-axis. The points lie the same distance above the x-axis, so the points are symmetric about the y-axis. A reflection across the y-axis takes one point to the other.</i></p>	<p><i>The y-coordinates are opposite numbers, so the points lie on opposite sides of the x-axis. Because opposites have the same absolute value, both points lie the same distance from the x-axis. The points lie the same distance right of the y-axis, so the points are symmetric about the x-axis. A reflection across the x-axis takes one point to the other.</i></p>	<p><i>The points have opposite numbers for x- and y-coordinates, so the points must lie on opposite sides of each axis. Because the numbers are opposites and opposites have the same absolute values, each point must be the same distance from each axis. A reflection across one axis followed by a reflection across the other axis takes one point to the other.</i></p>

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