NAME_____

Module 10 **Coordinate Geometry and Spatial Visualization**
Lesson 1 **Points in a Coordinate Plane**

Challenge Problems 10.1

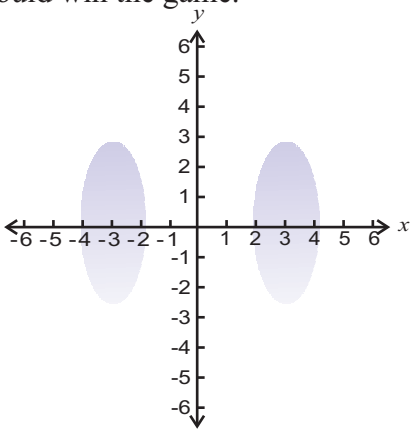
Set 1

1. Are the coordinates (1, 5) and coordinates (5, 1) the same?

2. What are the signs of any coordinates in Quadrant III? Explain.

Set 2

1. You can win the game shown by plotting a point in one of the shaded regions. Write two ordered pairs that would win the game.

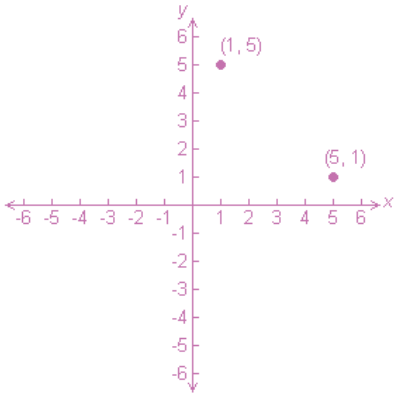


2. The product of the x-coordinate and y-coordinate of a point is negative. In which quadrant or quadrants can the point lie? Explain.

Possible Answers

Set 1

1. **These two ordered pairs are not the same. In (1, 5), one is the *x*-coordinate and five is the *y*-coordinate. In (5, 1), five is the *x*-coordinate, and one is the *y*-coordinate. The two points will both be plotted in quadrant one but not in the same place.**



2. **Quadrant III is the bottom left corner of a coordinate plane. All numbers on both number lines in this quadrant are negative, so the signs of any coordinates are negative.**

Set 2

1. **One of the ordered pairs that would win the game is (-3, 0). Another pair that would win is the ordered pair (3, 1). Both lie in colored regions and would win the game.**

2. **If the product is negative, one of the coordinates must be a positive number, and the other coordinate must be a negative number. If the *x*-coordinate is positive, then the *y*-coordinate is negative. In this case, the point will lie in Quadrant IV. If the *x*-coordinate is negative and the *y*-coordinate is positive, the point will lie in Quadrant II.**