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5.G.A.1 Graph Integers on a Coordinate Plane

5.G.A.1 Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates.

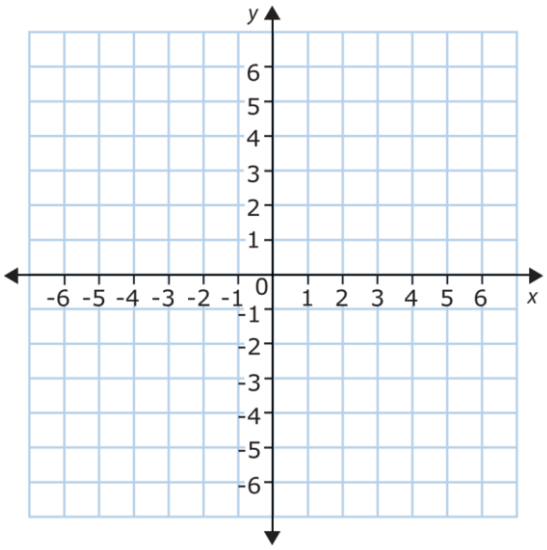
1. Anne is asked to explain how she would graph (-5, -4) on a coordinate plane. Help her make an explanation, starting from the origin and explain the steps.

Solution:

2. Start at the origin. Go to the right 6 units. Go up 3 units. What is the ordered pair?

Solution:

3. Plot the following points on the coordinate plane shown on the right.
   a. (-4, 5)
   b. (-2, 4)
   c. (4, -2)
   d. (1, -6)
   e. (-5, -2)
   f. (5, 3)
   g. (0, -4)



4. Give an example of a set of 3 ordered pairs that when plotted on the coordinate plane will form an equilateral triangle. Verify your answer by plotting all 3 points on the coordinate plane shown in question 3.

Solution:

5. Give an example of a set of 4 ordered pairs that when plotted on the coordinate plane will form a square. Verify your answer by plotting all 4 points on the coordinate plane shown in question 3.

Solution:

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Answer Key

5.G.A.1 Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates.

1. Anne is asked to explain how she would graph (-5, -4) on a coordinate plane. Help her make an explanation, starting from the origin and explain the steps.

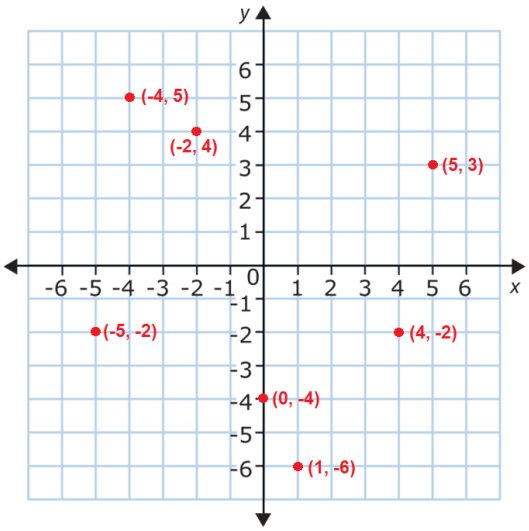
Solution:

Start from the origin at (0, 0). Then move 5 units to the left then 4 units down.

2. Start at the origin. Go to the right 6 units. Go up 3 units. What is the ordered pair?

Solution: (6, 3)

3. Plot the following points on the coordinate plane shown on the right.
   a. (-4, 5)
   b. (-2, 4)
   c. (4, -2)
   d. (1, -6)
   e. (-5, -2)
   f. (5, 3)
   g. (0, -4)



4. Give an example of a set of 3 ordered pairs that when plotted on the coordinate plane will form an isosceles triangle. Verify your answer by plotting all 3 points on the coordinate plane shown in question 3.

Solution: Answers may vary. Sample answer: (-2, 0), (2, 0), (0, 4)

5. Give an example of a set of 4 ordered pairs that when plotted on the coordinate plane will form a square. Verify your answer by plotting all 4 points on the coordinate plane shown in question 3.

Solution: Answer may vary. Sample answer: (0, 0), (3, 0), (3, 3), (0, 3)