READING POINTS ON A COORDINATE PLANE

The coordinate (or Cartesian) plane is very similar to a map of upper Manhattan: it is a grid system which helps us map locations. It consists of two perpendicular lines; the horizontal one is called the *x*-axis and the vertical is the *y*-axis.

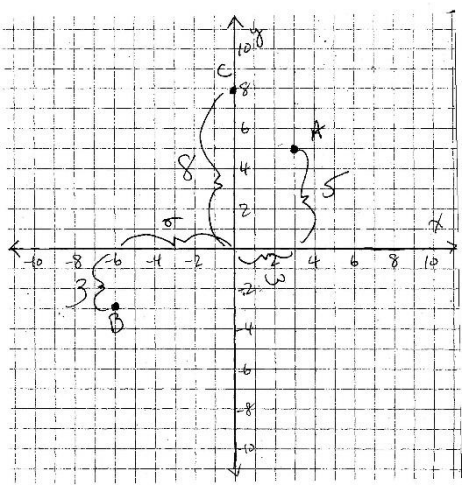
When plotting points or finding the coordinates of given points, we first look at the horizontal direction. We start at the origin and travel the necessary distance left or right, and this number of units represents the *x*-coordinate. If we move to the right, this number will be positive; to the left, negative. After this, we do the same for the vertical direction, which will be our *y*-coordinate. Here, up is the positive direction and down is negative. Each point is expressed as an ordered pair (*x*, *y*). The point (6, 2) signifies the point 6 units right and two units up from the origin. Note that (6, 2) is **not** the same as (2, 6).

For convention, we say that the upper left half (where both x and y are positive) is "Quadrant I." Going counter-clockwise gives us Quadrants II, III, and IV respectively. Note that some points lie on an axis, such as (2, 0) and (0, 2).

Model Problem

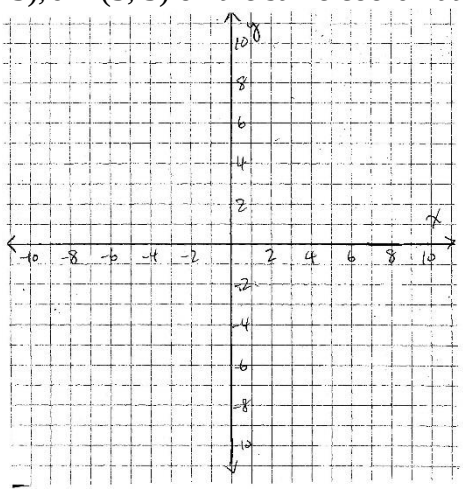
Graph the points A = (3, 5), B = (-6, -3), C = (0, 8).

Answer: For point A, we move 3 spaces right and 5 up. For B, we move 6 left and 3 down. For C, we do not move left or right and move 8 up.

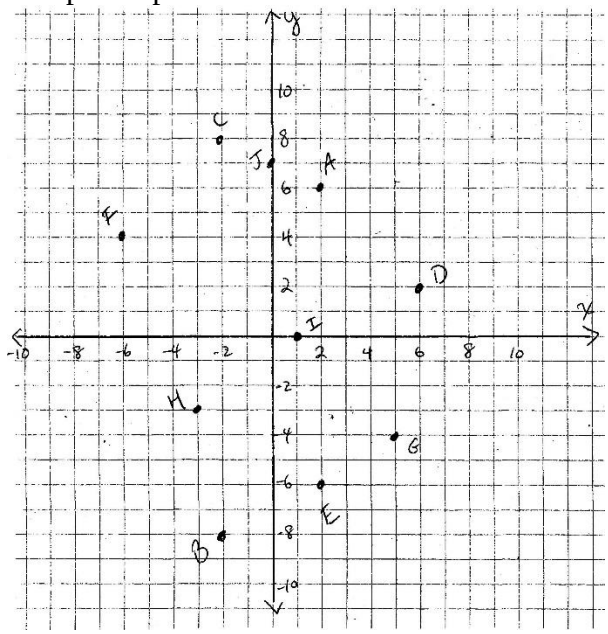


Practice Exercises:

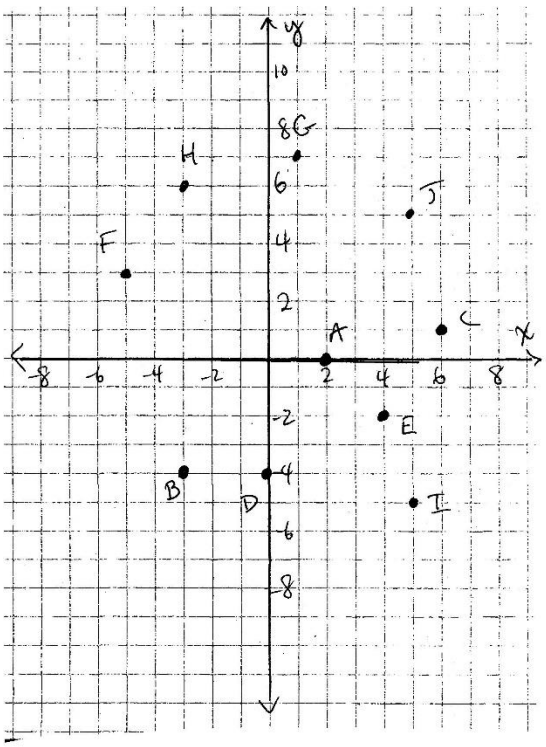
1. Graph the points A = (2, 0), B = (-3, -4), C = (6, 1), D = (0, -4), E = (4, -2), F = (-5, 3) G = (1, 7), H = (-3, 6), I = (5, -5), J = (5, 5) on the same coordinate plane.



2. Find the coordinates of the points plotted below:



Answers:
1.



2. A = (2, 6), B = (-2, -8), C = (-2, 8), D = (6, 2), E = (2, -6), F = (-6, 4), G = (5, -4), H = (-3, -3) I = (1, 0), J = (0, 7).