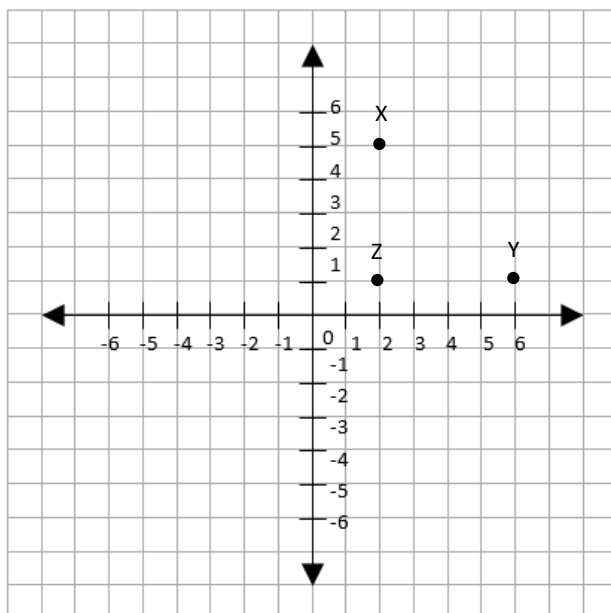## Distance between Two Points on a Coordinate Plane

1. Answer the following questions using the coordinate plane shown below.

   a. Write the coordinates of the points X, Y, and Z. _____, _____, _____
   b. Find the distance between points X and Z. _____
   c. Find the sum of the distance between the points XZ and YZ. _____

2. Find the distance between the point A (3, 4) and B (6, 4) on the coordinate plane.

   Solution:

3. Joy starts from origin of a coordinate plane. She moves 2 units in the negative X direction, then 6 units in the positive Y direction. Write the coordinates of her final position.

   Solution:

4. How many units should I move on a coordinate plane to reach a point L (3, -5) starting from the point M (-6, -7)? Specify X and Y direction separately.

   Solution:
   X: _____ units
   Y: _____ units

5. True or False.
   _____ a. Distance between two points on a coordinate plane is dependent of the X coordinate.
   _____ b. Distance between point (4, 5) and point (4, 4) is 1 unit.
   _____ c. Horizontal distance of the point (0, 4) from the origin is 4 units.
   _____ d. The distance between two points changes if the origin is moved.

Distance between Two Points on a Coordinate Plane

Answer Key

1. Answer the following questions using the coordinate plane shown below.
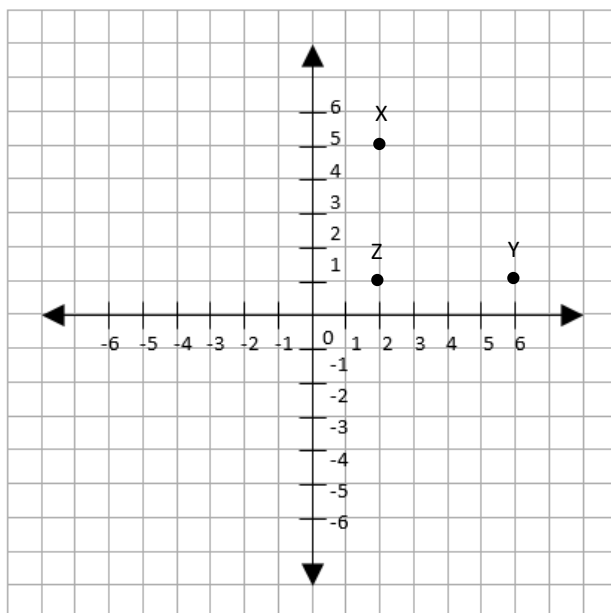
   d. Write the coordinates of the points X, Y, and Z. <u>X (2, 5)</u>, <u>Y (6, 1)</u>, <u>Z (2, 1)</u>

   e. Find the distance between points X and Z. <u>4 units</u>

   f. Find the sum of the distance between the points XZ and YZ. <u>8 units</u>

2. Find the distance between the point A (3, 4) and B (6, 4) on the coordinate plane.

   Solution: 3 units

3. Joy starts from origin of a coordinate plane. She moves 2 units in the negative X direction, then 6 units in the positive Y direction. Write the coordinates of her final position.

   Solution: (-2, 6)

4. How many units should I move on a coordinate plane to reach a point L (3, -5) starting from the point M (-6, -7)? Specify X and Y direction separately.

   Solution:
   X: <u>+9</u> units
   Y: <u>+2</u> units

5. True or False.

   <u>True</u> a. Distance between two points on a coordinate plane is dependent of the X coordinate.

   <u>True</u> b. Distance between point (4, 5) and point (4, 4) is 1 unit.

   <u>False</u> c. Horizontal distance of the point (0, 4) from the origin is 4 units.

   <u>False</u> d. The distance between two points changes if the origin is moved.