4.4

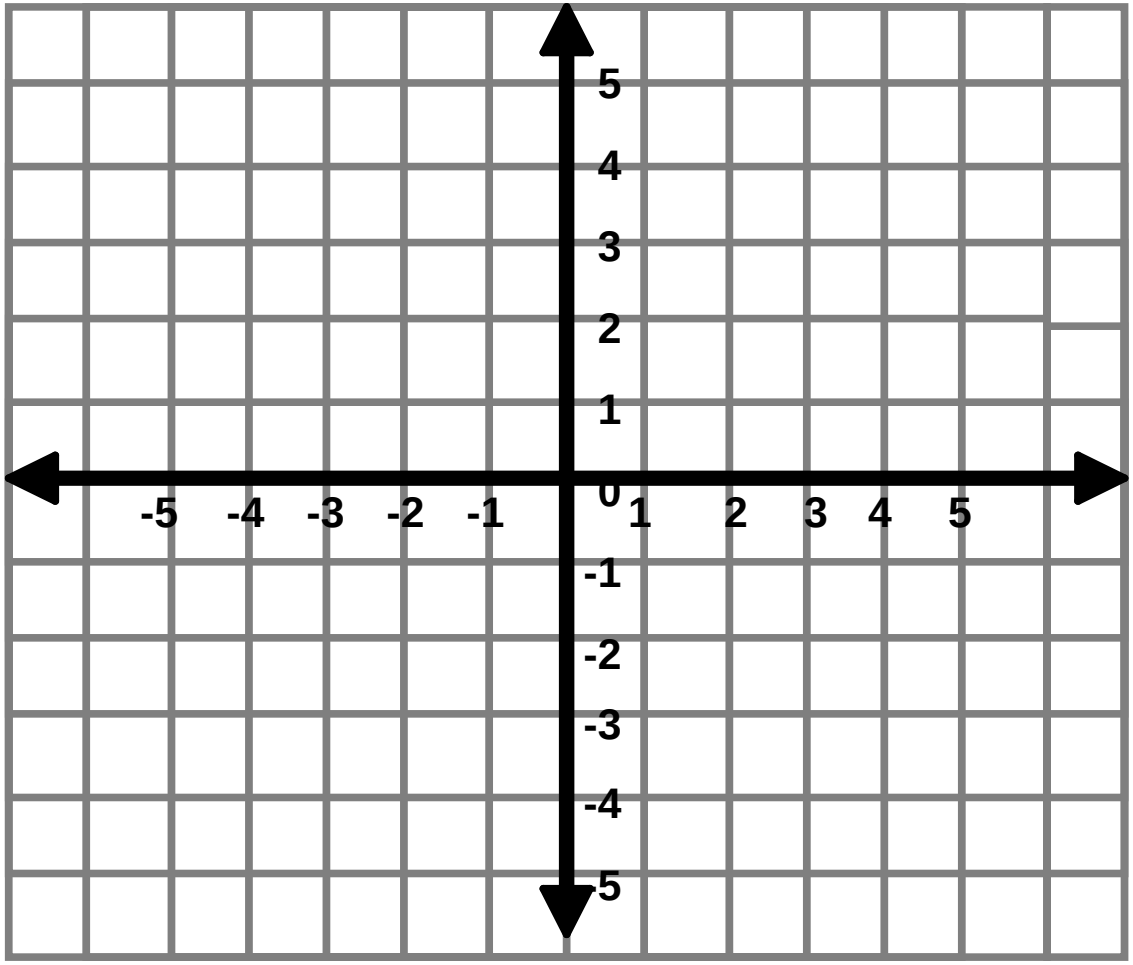
Polygons in the Coordinate Plane

Essential Question

How can you find the lengths of line segments in a coordinate plane?

Review

Label all the parts of the coordinate plane below.



Do Now

Plot and label each point in the same coordinate plane.

1. $A(1, 3)$

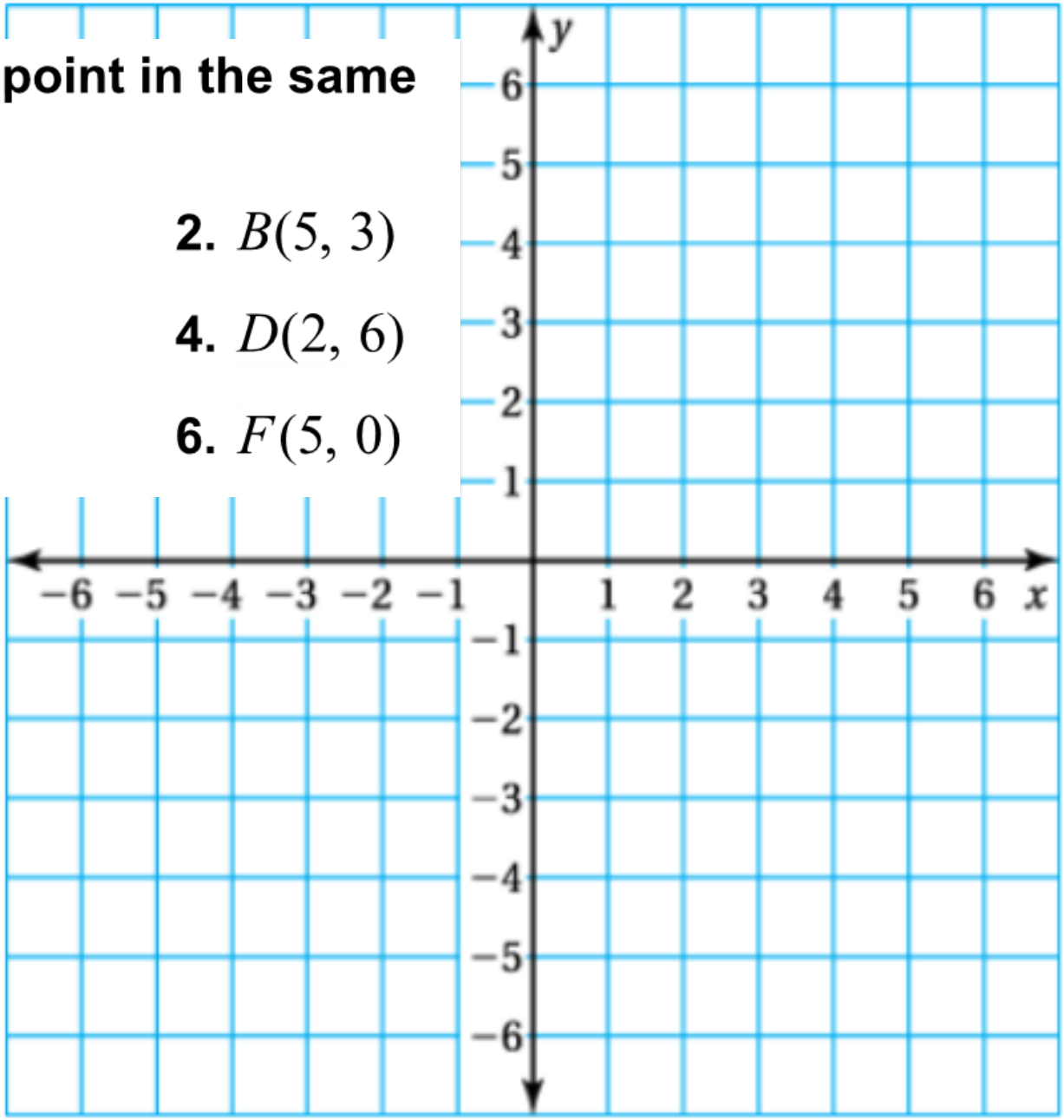
2. $B(5, 3)$

3. $C(0, 4)$

4. $D(2, 6)$

5. $E(4, 2)$

6. $F(5, 0)$



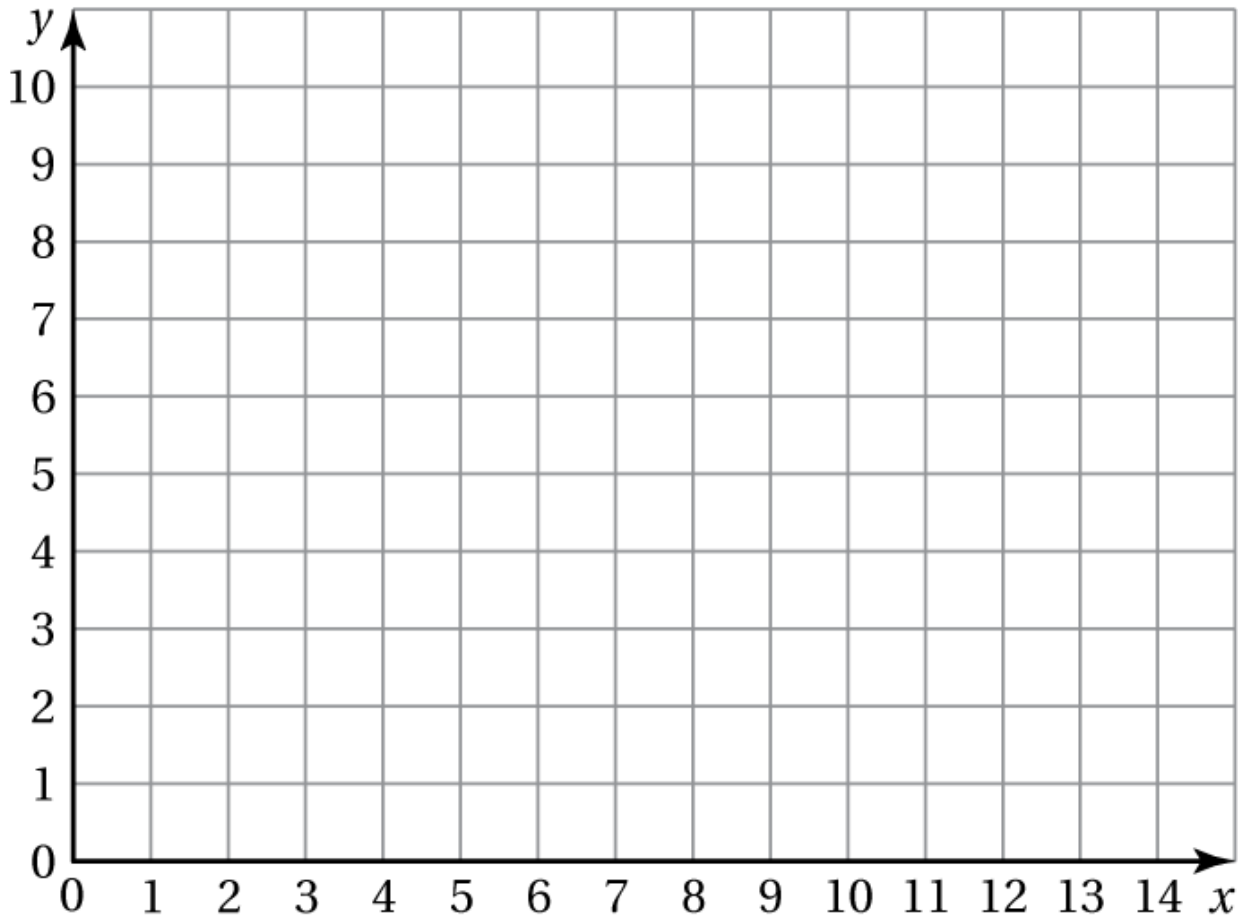
Activity

Plot and label each set of points in the coordinate plane. Then connect each set of points to form a polygon.

1) $A(2, 3), B(2, 10), C(6, 10), D(6, 3)$

a) What is the length of each horizontal line segment?

b) What is the length of each vertical line segment?



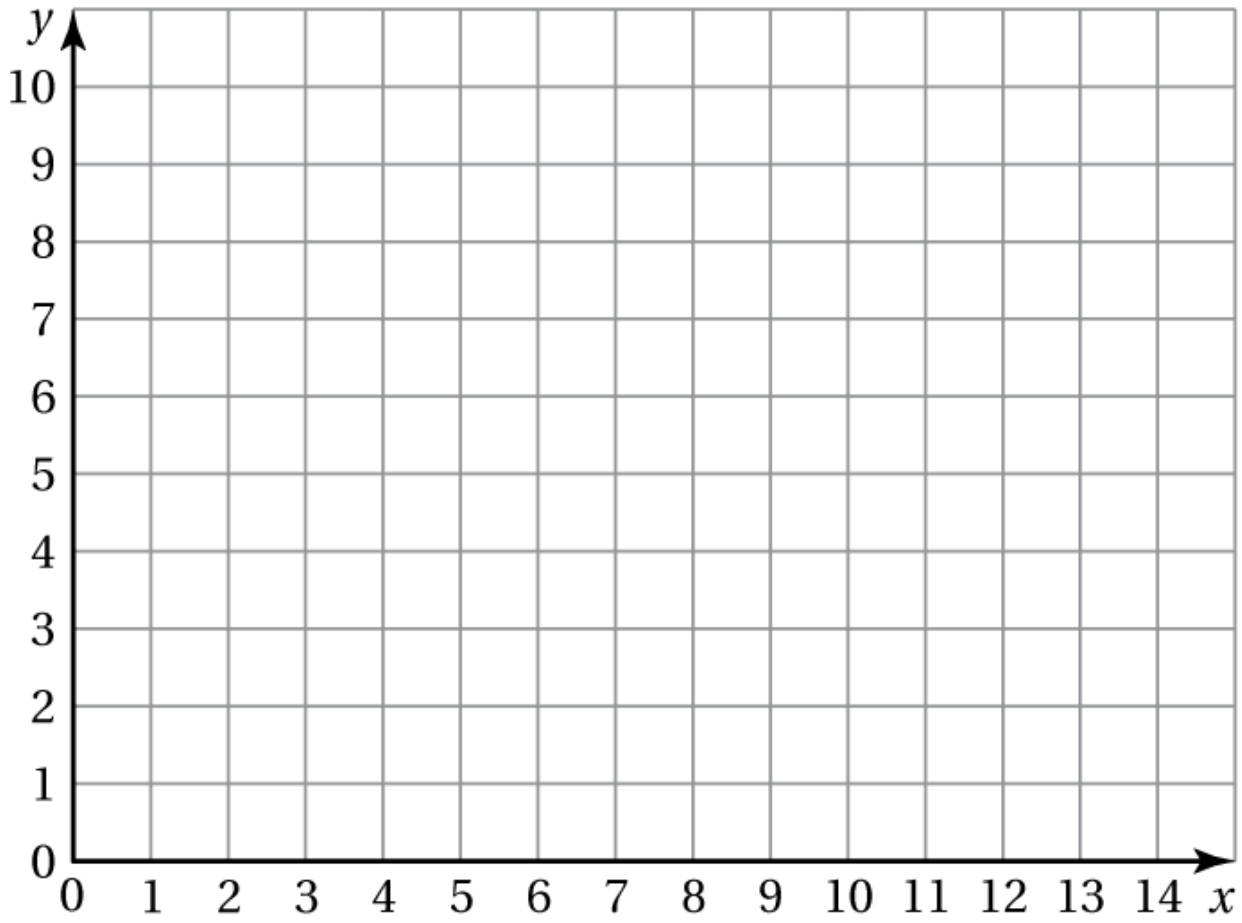
Activity

Plot and label each set of points in the coordinate plane. Then connect each set of points to form a polygon.

2) $E(8, 3), F(14, 8), G(14, 3)$

a) What is the length of each horizontal line segment?

b) What is the length of each vertical line segment?



Activity

3) Looking at the previous problems, what is an easy way to CALCULATE (not count) the length of a segment?

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Practice 1

The vertices of a quadrilateral are $A(2, 4)$, $B(3, 9)$, $C(7, 8)$, and $D(8, 1)$. Draw the quadrilateral in a coordinate plane.