ACTIVITY 3

MATHia CONNECTION
- Identifying and Interpreting Ordered Pairs
- Plotting Points

Horizontal and Vertical Distance on the Coordinate Plane

HABITS OF MIND
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

You can use absolute value and what you know about integers to determine distances between points on a coordinate plane.

☆ cross 0 (x or y axis) → add
☆ same quadrant → subtract

1 Consider points A and B.

(a) Use the coordinate plane to determine the distance from point A to point B.
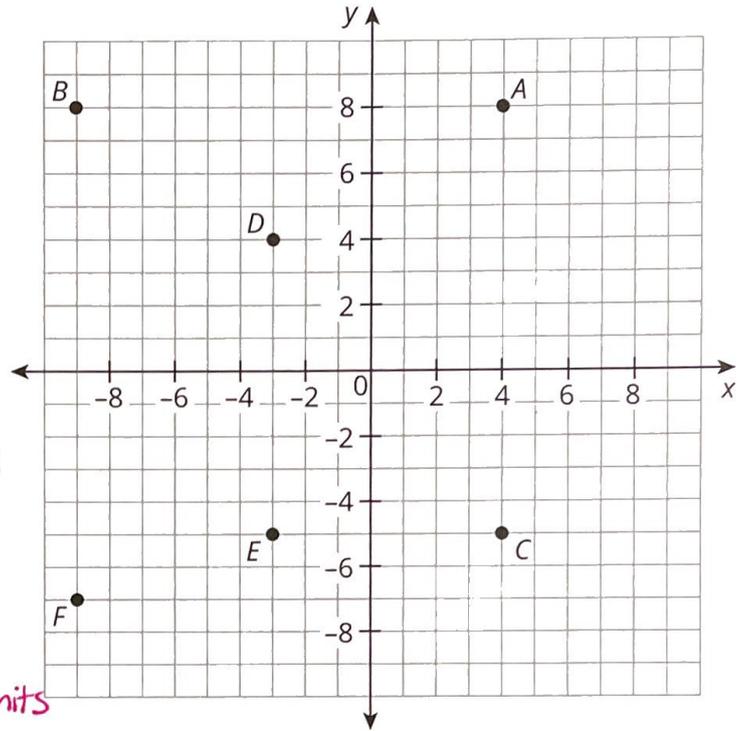
13 units

(b) Describe how the coordinates of points A and B are similar.

A(4,8) B(-9,8)
The y coordinates are the same.

(c) Write an absolute value expression using the x-coordinates of the points to calculate the distance.

$|4| + |-9| = 4+9 = 13$ units

2 Consider points B and F.

(a) Use the coordinate plane to determine the distance from point B to point F.

15 units

(b) Describe how the coordinates of points B and F are similar.

B(-9,8) F(-9,-7) The x coordinates are the same.

(c) Write an absolute value expression using the y-coordinates of the points to calculate the distance.

$|8| + |-7| = 8+7 = 15$ units

3 Write an absolute value expression and calculate each distance.

(a) Point D to (−3, −5)
(-3,4)
$|4| + |-5| = 9$ units

(b) (−7, −4) to (3, −4)
$|-7| + |3| = 10$ units

(c) (6, 2) to (6, −5)
$|2| + |-5| = 7$ units

☆ (d) Point B to (−9, 2)
(-9,8)
$|8| - |2| = 6$ units

(e) (8, −7) to point F
(-9,-7)
$|8| + |-9| = 17$ units

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TOPIC 2