

## Coordinate Geometry Worksheets

Find the lengths of the line segments whose end points are given below. Explain how you determined that the line segments are horizontal or vertical.

1.  $(-3,4)$  and  $(-3,9)$

2.  $(2,-2)$  and  $(-8,-2)$

3.  $(-6,-6)$  and  $(-6,1)$

4.  $(-9,4)$  and  $(-4,4)$

5.  $(0,-11)$  and  $(0,8)$

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Find the lengths of the line segments whose end points are given below. Explain how you determined that the line segments are horizontal or vertical.

1.  $(-3,4)$  and  $(-3,9)$

*Both end points have  $x$ -coordinates of  $-3$ , so the points lie on a vertical line that passes through  $-3$  on the  $x$ -axis.  $|4| = 4$  and  $|9| = 9$ , and the numbers are on the same side of zero. By subtraction,  $9 - 4 = 5$ , so the length of the line segment with end points  $(-3,4)$  and  $(-3,9)$  is 5 units.*

2.  $(2,-2)$  and  $(-8,-2)$

*Both end points have  $y$ -coordinates of  $-2$ , so the points lie on a horizontal line that passes through  $-2$  on the  $y$ -axis.  $|2| = 2$  and  $|-8| = 8$ , and the numbers are on opposite sides of zero, so the absolute values must be added. By addition,  $8 + 2 = 10$ , so the length of the line segment with end points  $(2,-2)$  and  $(-8,-2)$  is 10 units.*

3.  $(-6,-6)$  and  $(-6,1)$

*Both end points have  $x$ -coordinates of  $-6$ , so the points lie on a vertical line.  $|-6| = 6$  and  $|1| = 1$ , and the numbers are on opposite sides of zero, so the absolute values must be added. By addition,  $6 + 1 = 7$ , so the length of the line segment with end points  $(-6,-6)$  and  $(-6,1)$  is 7 units.*

4.  $(-9,4)$  and  $(-4,4)$

*Both end points have  $y$ -coordinates of 4, so the points lie on a horizontal line.  $|-9| = 9$  and  $|-4| = 4$ , and the numbers are on the same side of zero. By subtraction,  $9 - 4 = 5$ , so the length of the line segment with end points  $(-9,4)$  and  $(-4,4)$  is 5 units.*

5.  $(0,-11)$  and  $(0,8)$

*Both end points have  $x$ -coordinates of 0, so the points lie on the  $y$ -axis.  $|-11| = 11$  and  $|8| = 8$ , and the numbers are on opposite sides of zero, so their absolute values must be added. By addition,  $11 + 8 = 19$ , so the length of the line segment with end points  $(0,-11)$  and  $(0,8)$  is 19 units.*

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