

Student Name: \_\_\_\_\_

Score: \_\_\_\_\_

**Midpoint Formula Worksheet**

Mid point of the line segment  $P(x_1, y_1)$  and  $Q(x_2, y_2)$  is  $\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$

Find the midpoint of the following line segments with the given end points:

<p><math>(2, 5)</math> and <math>(8, 7)</math></p> <p><math>x_1 \ y_1 \quad x_2 \ y_2</math></p> <p><math>\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)</math></p> <p><math>\left(\frac{2+8}{2}, \frac{5+7}{2}\right)</math></p> <p>Midpoint: <u>                    </u></p>	<p><math>(4, -6)</math> and <math>(6, 8)</math></p> <p>Midpoint: <u>                    </u></p>
<p><math>(9, -4)</math> and <math>(-5, -4)</math></p> <p>Midpoint: <u>                    </u></p>	<p><math>(-3, 0)</math> and <math>(7, 0)</math></p> <p>Midpoint: <u>                    </u></p>
<p><math>(-1, 3)</math> and <math>(-2, -11)</math></p> <p>Midpoint: <u>                    </u></p>	<p><math>(0, 0)</math> and <math>(11, 9)</math></p> <p>Midpoint: <u>                    </u></p>
<p><math>(10, 14)</math> and <math>(6, -6)</math></p> <p>Midpoint: <u>                    </u></p>	<p><math>(-3, -5)</math> and <math>(3, 5)</math></p> <p>Midpoint: <u>                    </u></p>

The Distance Formula  $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$ 

Date \_\_\_\_\_ Period \_\_\_\_\_

Find the distance between each pair of points.

$$\sqrt{x}$$

1)  $(7, 3), (-1, -4)$   
 $x_1 \ y_1 \ x_2 \ y_2$

$$d = \sqrt{(-1 - 7)^2 + (-4 - 3)^2}$$

$$d = \sqrt{(-8)^2 + (-7)^2}$$

$$d = \sqrt{64 + 49}$$

$$\sqrt{113}$$
  
$$10.6$$

2)  $(3, -5), (-3, 0)$

4)  $(5, 1), (5, -6)$

5)  $(5, -8), (-8, 6)$

6)  $(4, 6), (-4, -3)$

7)  $(-7, 0), (-2, -4)$

8)  $(-4, -3), (1, 4)$

9)  $(-2, 2), (-6, -8)$

10)  $(6, 2), (0, -6)$

11)  $(-3, -1), (-4, 0)$

12)  $(-5, 4), (3, 1)$

13)  $(-2, 3), (-1, 7)$

14)  $(8, -5), (-1, -3)$