Warm up

Write the equation of the line:

1. **Parallel to 8x – 2y = 6 and goes through (5, -2)**

1

Midpoint

Given 2 ordered pairs, it's the
AVG of the x's and
AVG of the y's.

2

Midpoint Formula

$$\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

3

Find the midpoint.

1. **(3, 7) and (-2, 4)**

2. **(5, -2) and (6, 14)**

4

Find the midpoint.

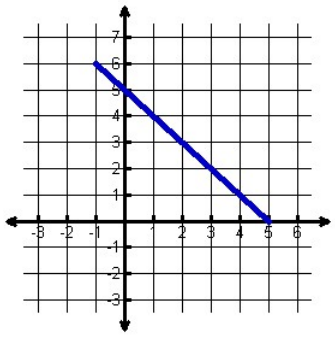
3. **(3, -9) and (14, 16)**

4. **(12, 17) and (-7, 9)**

5

Find the midpoint.

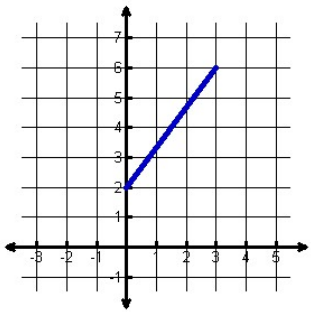
5.



6

Find the midpoint.

6.



7

Given the midpt and one endpt, find the other endpt.

7.

Midpt (3, -6)

Endpt (7, -3)

8

Given the midpt and one endpt, find the other endpt.

8.

Midpt (-1, 2)

Endpt (3, 0)

9

Given the midpt and one endpt, find the other endpt.

9.

Midpt (-4, 6)

Endpt (2, 1)

10

Partition Line Segments (1 Dimension)

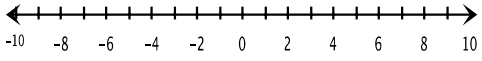
$$(x_2 - x_1)\left(\frac{a}{a+b}\right) + x_1$$

11

Partition – 1 Dimension

$$(x_2 - x_1)\left(\frac{a}{a+b}\right) + x_1$$

A is at 1, and B is at 7.
Find the point, T, so that T partitions A to B in a 2:1 ratio.

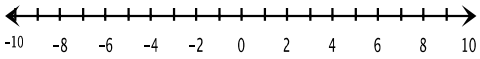


12

Partition – 1 Dimension

$$(x_2 - x_1)\left(\frac{a}{a+b}\right) + x_1$$

A is at -6 and B is at 4.
Find the point, T, so that T is A to B in a 2:3 ratio.



13

Partition – 2 Dimension

$$(x_2 - x_1)\left(\frac{a}{a+b}\right) + x_1 \qquad (y_2 - y_1)\left(\frac{a}{a+b}\right) + y_1$$

Given the points A(-2,4) and B(7,-2), find the coordinates of the point P on the directed line segment AB that partitions AB in the ratio 1:2.

14