

## Partitioning a Segment & Midpoint

Name \_\_\_\_\_

Date \_\_\_\_\_

Directions: Partition each segment by the given ratio.

1)  $(1, 3)$  &  $(8, 4)$ ; 4:1

2)  $(-2, 1)$  &  $(4, 5)$ ; 3:7

$(6.6, 3.8)$

$(-2, 2.2)$

3)  $(8, 0)$  &  $(3, -2)$ ; 1:4

4)  $(1.5, 6)$  &  $(1.5, -2)$ ; 3:5

$(7, -4)$

$(1.5, 3)$

5)  $(-14, 3)$  &  $(10, -4)$ ; 1:2

6)  $(4, 7)$  &  $(8, 7)$ ; 2:2

$(-6, 6.7)$

$(6, 7)$

Directions: Find the midpoint of each segment.

7)  $A(3, 5)$  &  $B(-2, 6)$

8)  $C(0, 4)$  &  $D(6, -2)$

9)  $G(x, 3y)$  &  $H(3x, y)$

$(.5, 5.5)$

$(3, 1)$

$(2x, 2y)$

Directions: Find the missing endpoint if the midpoint is  $(3, 6)$ .

10)  $A(5, 11)$

11)  $A(-8, 2)$

12)  $A(5x - 6, -4y + 3)$

$(1, 1)$

$(14, 10)$

$(2, -3)$

# Review of Writing Equations of Lines

Name \_\_\_\_\_ Class Period \_\_\_\_\_

Write the equation of the line in slope-intercept form based on the given information.

1.  $m = 2/3, (-3, 4)$

$$y = \frac{2}{3}x + 6$$

2.  $m = -3, b = 7$

$$y = -3x + 7$$

3.  $(3, -2), (-4, -1)$

$$y = -\frac{1}{7}x - \frac{11}{7}$$

4. Parallel to  $y = 3x - 5$   
Passes through  $(5, 6)$

$$y = 3x - 9$$

5.  $m = -\frac{1}{4}, (6, 0)$

$$y = -\frac{1}{4}x + \frac{3}{2}$$

6.  $m = \frac{3}{4}, y\text{-intercept} = -8$

$$y = \frac{3}{4}x - 8$$

7.  $m = \text{undefined}, (9, 13)$

$$x = 9$$

8.  $\perp$  to  $2x + y = 3$   
passes through  $(4, -4)$

$$y = \frac{1}{2}x - 6$$

9.  $(14, -3), (-1, -3)$

$$y = -3$$

10.  $m = 0, (6, 8)$

$$y = 8$$

11. parallel to  $2/3x - 1/2y = 2$   
passes through  $(-2, 5)$

$$y = \frac{4}{3}x + \frac{23}{3}$$

12. Parallel to  $y = -3$   
passes through  $(-12, 10)$

$$y = 10$$

13.  $m = -3/4$   $(-2, 5)$

$$y = -\frac{3}{4}x + \frac{7}{2}$$

14.  $(-2, 5), (8, 9)$

$$y = \frac{2}{5}x + \frac{29}{5}$$

15.  $\perp$  to  $x = 7$   
passes through  $(15, -1)$

$$y = -1$$

16. Parallel to  $x = 7$   
passes through  $(34, 18)$

$$x = 34$$

17.  $(-7, -4), (-7, 3)$

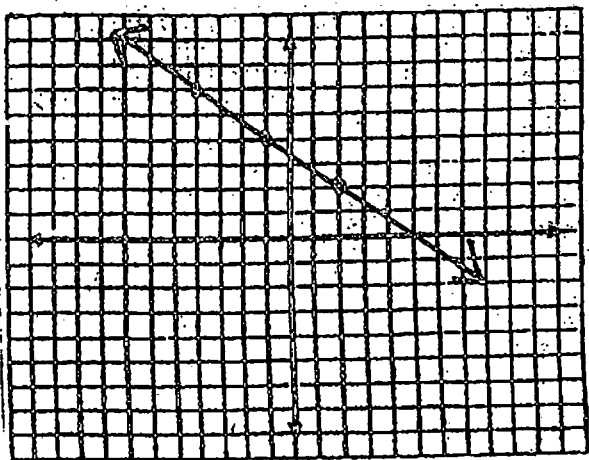
$$x = -7$$

18.  $\perp$  to  $3y - 2x + 15 = 0$   
passes through  $(5, -2)$

$$y = -\frac{3}{2}x + \frac{11}{2}$$

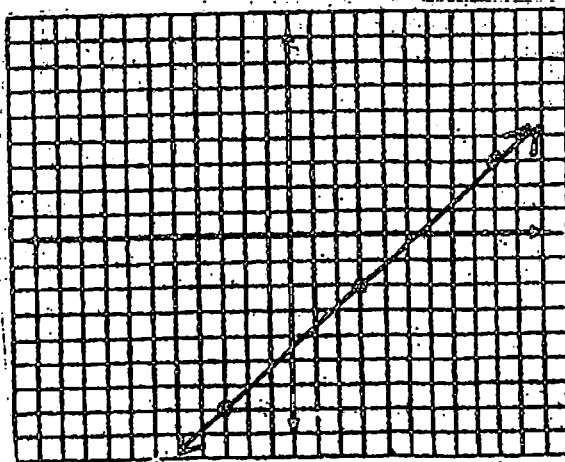
19 - 20, use the given graphs to write an equation of the line in slope-intercept line.

19.



$$y = -\frac{2}{3}x + \frac{10}{3}$$

20.



$$y = \frac{5}{6}x - \frac{9}{2}$$