

Find the length and midpoint of \overline{AB} .

1) A(1, -6) & B(-4, 1)

D = _____

MP = _____

2) A(0, 5) & B(-3, -7)

D = _____

MP = _____

Determine the x-intercept and y-intercept for each equation.

3) $2x + 5y = 12$

x-int = _____

y-int = _____

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

x-int = _____

y-int = _____

Determine the point of intersection for each pair (system) of equations. Do not use the graphing calculator.

5) $2x + y = -16$
 $x + 3y = 1$

6) $3x - 5y = 1$
 $-2x + 4y = 4$

Find the slope of the line containing the points given.

7) A(1, 9) & B(5, 21)

8) X(-3, 4) & Y(3, 4)

Find the slope and y-intercept for the following equations.

9) $6y = 3x + 42$ m = _____

b = _____

10) $x = 2y = 7$ m = _____

b = _____

Determine if the following lines are parallel, perpendicular or neither. (must show proof)

11) line A: $y = \frac{5}{3}x - 4$

line B: $6x - 10y = 12$

12) line C: passes thru (6, 4) & (-2, 6)

line D: passes thru (0, -6) & (1, -2)

Write an equation in slope-intercept form for each line described.

13) has y-int. = 2, and passes thru (1, -1)

14) has x-int = 4, and slope = 0.5

15) passes thru (-1, 7) & (2, 1)

16) passes thru (6, -4) and is parallel to the line with equation: $3y - x = 3$

17) Prove what type of quadrilateral forms when the following points are connected: A(-1, 6), B(2, 5), C(1, 2), D(-2, 3) Do not graph.

18) Determine which of the following points lie on the line with equation: $6 - \frac{1}{2}y = 2x$

a) (8, 1)

b) (4.5, -6)

c) (8, 20)

d) $\left(2 - \frac{1}{4}a, a + 4\right)$