Name:_____ Date: _____

Review Ditto I for Linear Equation Test Integrated Algebra

1. Which equation represents the line whose slope is 2 and whose y-intercept is 6?

(m) (b)

$y = mx + b$

$y = 2x + 6$

1) $y = 2x + 6$
2) $y = 6x + 2$
3) $2y + 6x = 0$
4) $y + 2x = 6$

2. What is the slope of the line whose equation is $3x - 7y = 9$?

$3x - 7y = 9$

$-3x \quad -3x$

$\frac{-7y}{-7} = \frac{-3x}{-7} + \frac{9}{-7}$

$y = \frac{3}{7}x - \frac{9}{7}$

1) $-\frac{3}{7}$
2) $\frac{3}{7}$
3) $-\frac{7}{3}$
4) $\frac{7}{3}$

3. What is the slope of the line whose equation is $3x - 4y - 16 = 0$?

$3x - 4y - 16 = 0$

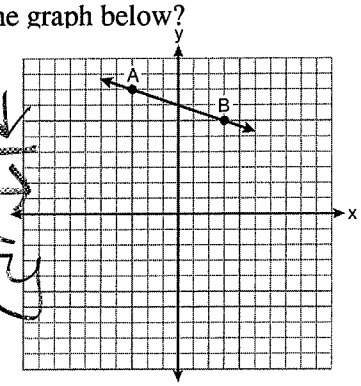
$+4y \quad +4y$

$\frac{3x}{4} - \frac{16}{4} = \frac{4y}{4}$

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

1) $\frac{3}{4}$
2) $\frac{4}{3}$
3) 3
4) -4

4. What is the slope of the line passing through the points A and B, as shown on the graph below?



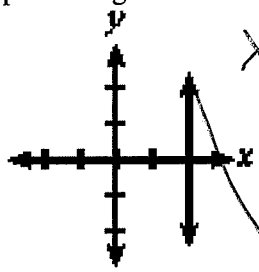
$m = \frac{-2}{6}$

Simplify

$m = \frac{-1}{3}$

1) -3
2) $-\frac{1}{3}$
3) 3
4) $\frac{1}{3}$

5. What is the slope of the given line?

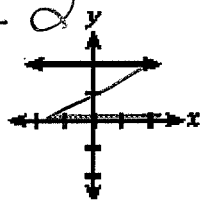


$x = 2$

No/undefined slope

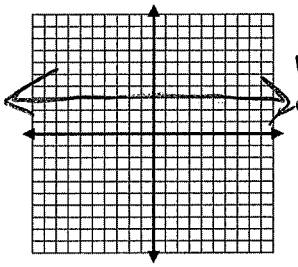
6. What is the slope of the given line?

$y = 2$



Zero slope

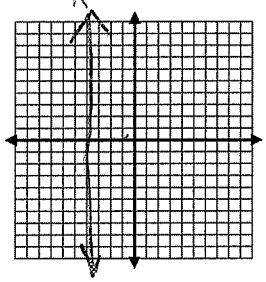
7. Graph $y = 3$



$y = 3$

8. Graph $x = -4$

$x = -4$

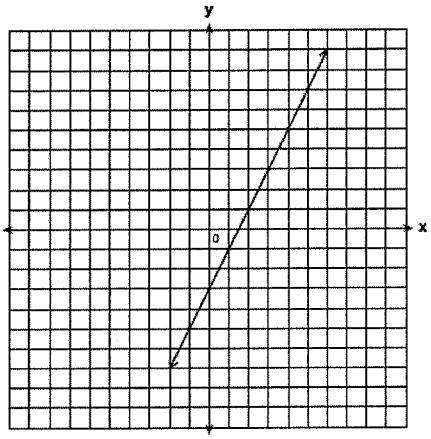


9. Write the equation for the line shown in the accompanying graph. Explain your answer.

$y = mx + b$

$\frac{2}{1}$ $(0,-3)$

$y = 2x - 3$

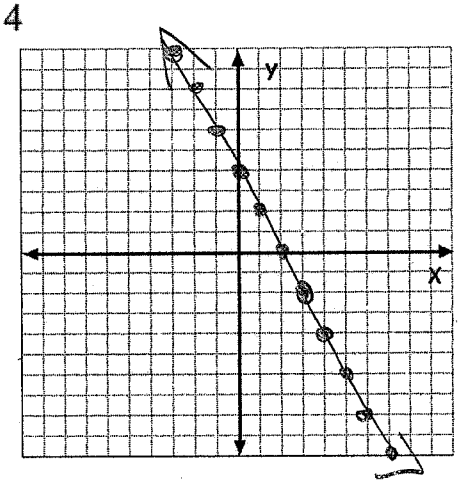


Graph each of the following equations.

10. $y = -2x + 4$

m = $\frac{-2}{1}$

b = $(0,4)$



11. $x - 2y = 6$

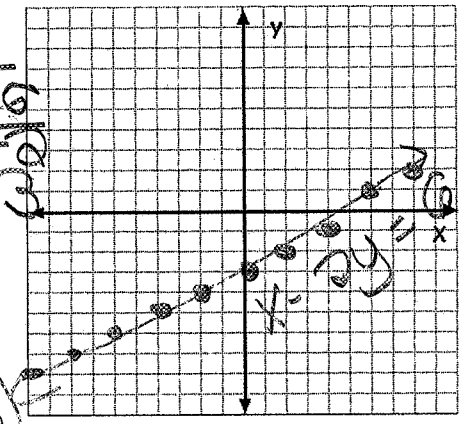
$-x \quad -x$

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

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

m = $\frac{1}{2}$

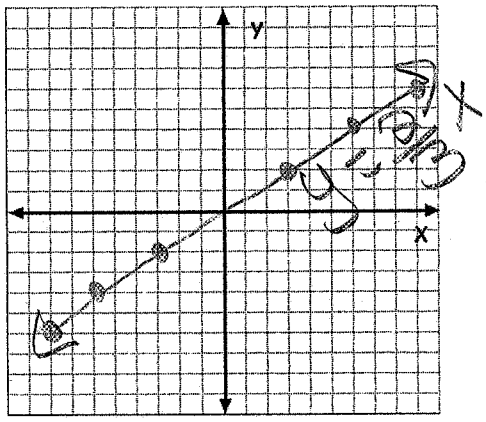
b = $(0,-3)$



12. $y = \frac{2}{3}x$

m = $\frac{2}{3}$

b = $(0,0)$



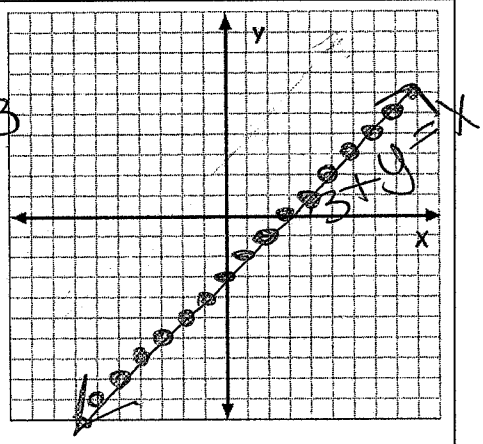
13. $3 + y = x$

$-3 \quad -3$

$y = x - 3$

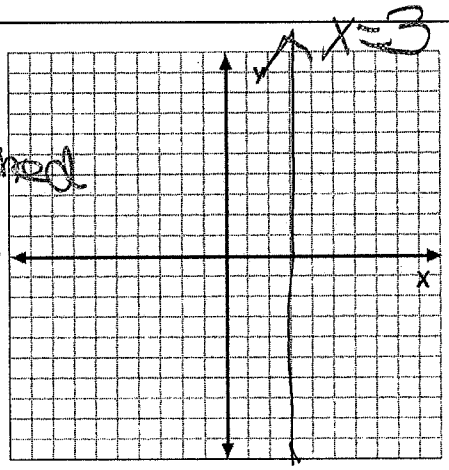
m = $\frac{1}{1}$

b = $(0,-3)$



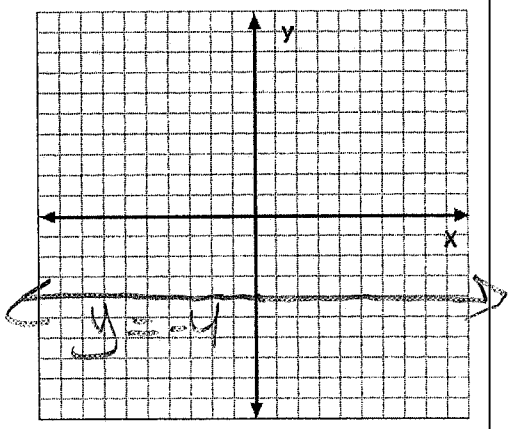
14. $x = 3$

No / undefined slope



15. $y = -4$

zero slope



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Review Ditto II for Linear Equation Test Integrated Algebra

Solve graphically each of the following equations

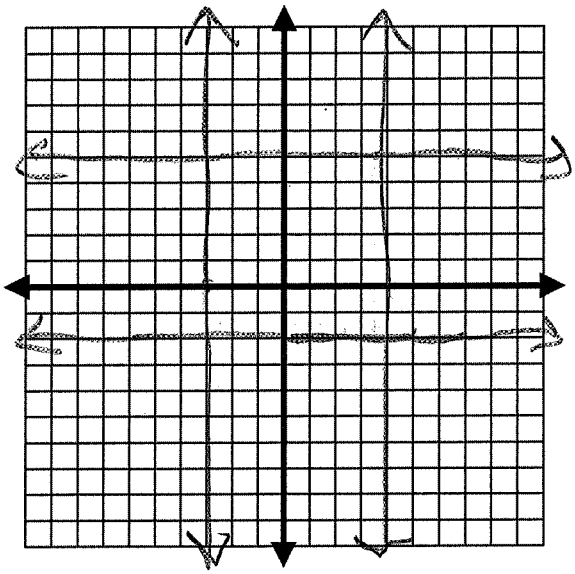
1. Find the area of the region bounded by the following equations. Label all lines!

$x = 4$ $x = -3$ $y = 5$ $y = -2$

$A = L \cdot W$

$A = (7)(7)$

$\boxed{A = 49\,un^2}$



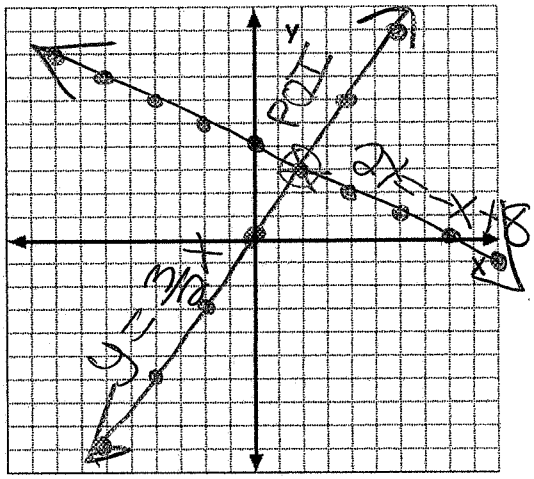
2. $y = \frac{3}{2}x$ $m = \frac{3}{2}$ $b = (0,0)$

$\frac{2y}{2} = \frac{-x}{2} + \frac{8}{2}$

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

$m = -\frac{1}{2}$ $b = (0,0)$

POI $(2,3)$



3.

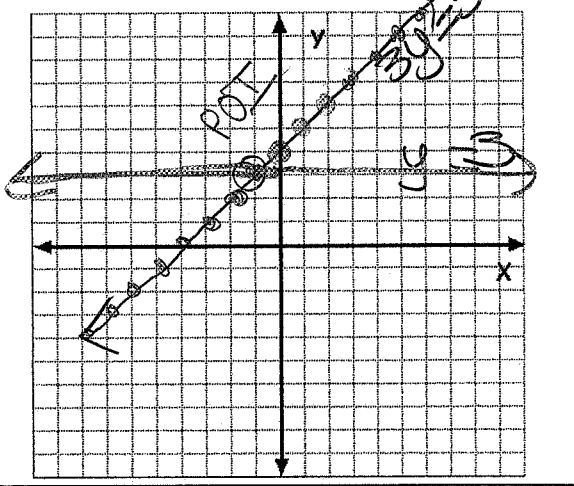
$y = 3$

$\frac{3y}{3} = \frac{3x}{3} + \frac{12}{3}$

$y = x + 4$

$m = \frac{1}{1}$ $b = (0,4)$

POI $(-1,3)$



20.

$3x - y = 5$

$x - y = 1$

$3x - y = 5$
$-3x \quad -3x$

$\frac{-y}{-1} = \frac{-3x}{-1} + \frac{5}{-1}$

$y = 3x - 5$

$m = \frac{3}{1}$ $b = (0, -5)$

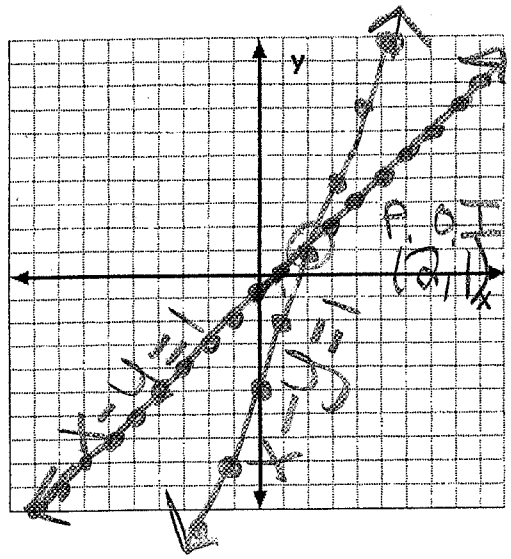
$x - y = 1$
$-x \quad -x$

$\frac{-y}{-1} = \frac{-x}{-1} + \frac{1}{-1}$

$y = x - 1$

$m = \frac{1}{1}$

$b = (0, -1)$



21.

$2x + y = 8$

$y = 2x - 2$

$2x + y = 8$
$-2x \quad -2x$

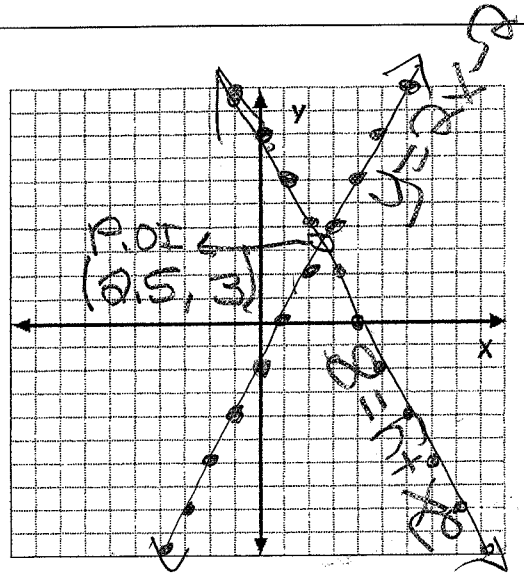
$y = -2x + 8$

$m = \frac{-2}{1}$ $b = (0, 8)$

$y = 2x - 2$

$m = \frac{2}{1}$

$b = (0, -2)$



22.

$4x - 6y = 12$

$2x + 2y = 6$

$2x + 2y = 6$
$-2x \quad -2x$

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

$y = -x + 3$

$m = \frac{-1}{1}$ $b = (0, 3)$

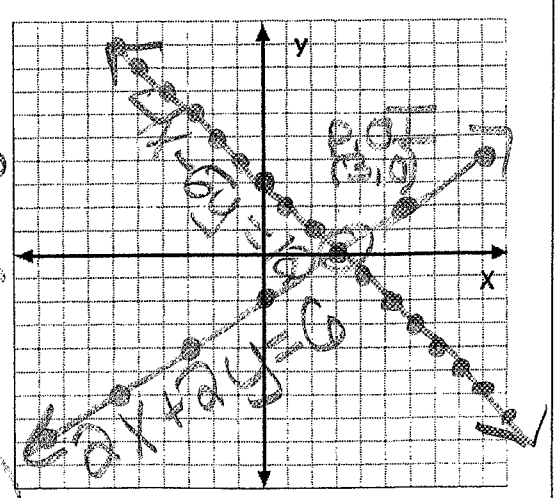
$4x - 6y = 12$
$-4x \quad -4x$

$\frac{-6y}{-6} = \frac{-4x}{-6} + \frac{12}{-6}$

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

$m = \frac{2}{3}$

$b = (0, -2)$



Solve algebraically each of the following equations

7. What point is the intersection of the graphs of the lines

$$2x - y = 3$$
$$+ \quad x + y = 3?$$

$$\frac{3x}{3} = \frac{6}{3}$$

$$\boxed{x = 2}$$

↓ plug in

$$x + y = 3$$
$$2 + y = 3$$
$$-2 \quad\quad -2$$
$$\boxed{y = 1}$$

check

$$x + y = 3$$
$$2 + 1 = 3$$
$$3 = 3$$

$$2x - y = 3$$
$$2(2) - 1 = 3$$
$$4 - 1 = 3$$
$$3 = 3 \checkmark$$

$$\boxed{\text{Solution Set } (2,1)}$$

8. Solve algebraically using the addition method and check:

$$4(2x - 5y = 16)$$
$$5(7x + 4y = 13)$$

$$8x - 20y = 64$$
$$35x + 20y = 65$$

$$\frac{43x}{43} = \frac{129}{43}$$

$$\boxed{x = 3}$$

↓ plug in

$$7x + 4y = 13$$
$$7(3) + 4y = 13$$
$$21 + 4y = 13$$
$$-21 \quad\quad -21$$
$$\frac{4y}{4} = \frac{-8}{4}$$
$$\boxed{y = -2}$$

$$\boxed{\text{Solution Set } (3,-2)}$$

check

$$2(3) - 5(-2) = 16$$
$$6 + 10 = 16$$
$$16 = 16 \checkmark$$

$$7(3) + 4(-2) = 13$$
$$21 - 8 = 13$$
$$13 = 13 \checkmark$$

9. Solve algebraically using the substitution method and check:

$$2x + y = 8$$
$$y = \boxed{2x - 2}$$

replace y

y is 2x − 2

$$2x + y = 8$$
$$2x + (2x - 2) = 8$$
$$4x - 2 = 8$$
$$+2 \quad +2$$
$$\frac{4x}{4} = \frac{10}{4}$$
$$\boxed{x = 2.5}$$

↓

$$y = 2x - 2$$
$$y = 2(2.5) - 2$$
$$\boxed{y = 3}$$

$$\boxed{\text{Solution Set } (2.5, 3)}$$

check

$$2(2.5) + 3 = 8$$
$$5 + 3 = 8$$
$$8 = 8 \checkmark$$

$$3 = 2(2.5) - 2$$
$$3 = 5 - 2$$
$$3 = 3 \checkmark$$