

# Linear Quiz 2 Review Homework

Name \_\_\_\_\_

Be able to know and interpret the three types of Linear Equations.

- 1) What is slope intercept form? How do you graph from slope intercept form?
- 2) What is standard form? How do you graph from standard form?
- 3) What is point slope form? How do you graph from point slope form?

Be able to graph linear equations and inequalities.

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

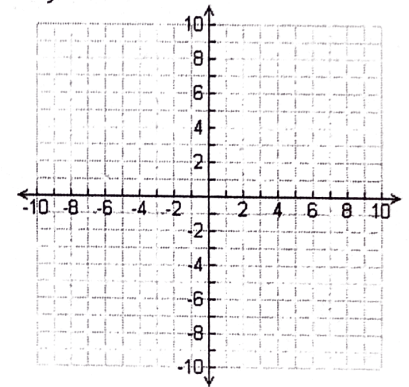
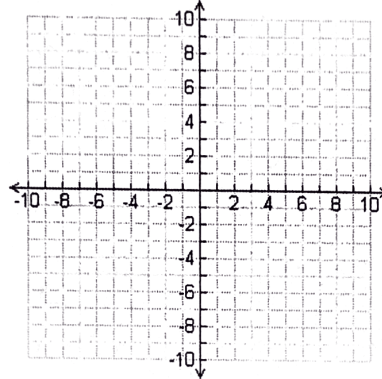
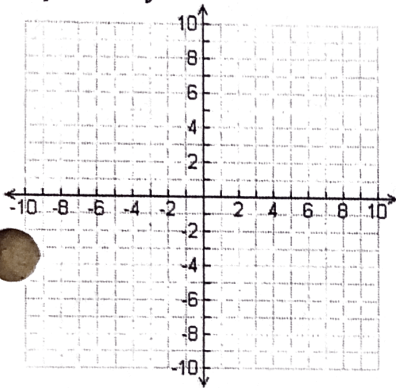
6)  $y - 2 = \frac{2}{3}(x - 5)$

8)  $y > \frac{4}{3}x - 4$

5)  $3x - 5y = 15$

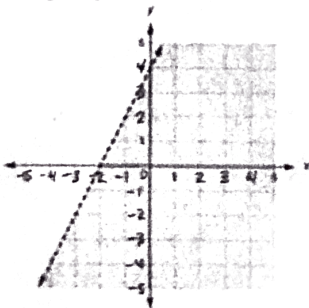
7)  $2y + 6 = -x$

9)  $x \leq -8$

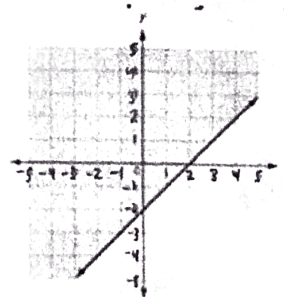


Write the linear inequality for each.

10)



11)



Be able to solve for y to put each in slope intercept form.

12)  $5x - 3y = 15$

13)  $6y - x = 10$

14)  $7y = -14x + 28$

**Be able to find x and y intercepts from an equation.**

15) Jaime bought a jar of 50 vitamins. His two children each take one vitamin each day. The number of vitamins left in the jar after  $x$  days is represented by the function  $y = 50 - 2x$ .

a. Find the  $x$  intercept. What does it mean in terms of the situation?

b. Find the  $y$  intercept. What does it mean in terms of the situation?

**Be able to write an equation in point-slope form.**

16) A roller skating rink offers a special rate for birthday parties. On the same day, a party for 10 skaters costs \$107 and a party for 15 skaters costs \$137.

a. Write an equation in point-slope form.

b. How much would a party for 12 skaters cost?

17) a. Write the equation in point-slope form for the line that passes through  $(4, 7)$  and  $(5, 1)$

b. Solve for  $y$  to put this equation in slope-intercept form

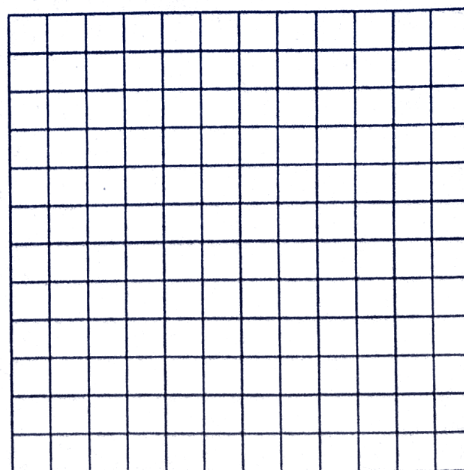
**Be able to graph a linear inequality and interpret solutions.**

18) A local Apple store wants to sell more than \$16,000 worth of AirPods ( $x$ ) and Apple Watches ( $y$ ). AirPods cost \$160 and Apple watches cost \$800.

a. Write a linear inequality for this situation. \_\_\_\_\_

b. Graph the solution.

c. Find an ordered pair solution from the graph. What does it mean in the context of the situation?



# Linear Quiz 2 Review Homework

Name Key

Be able to know and interpret the three types of Linear Equations.

1) What is slope intercept form? How do you graph from slope intercept form?

$y = mx + b$  find the slope (m)  
find the y-intercept (b)

2) What is standard form? How do you graph from standard form?

$Ax + By = C$  find the x + y intercepts

3) What is point slope form? How do you graph from point slope form?

$y - y_1 = m(x - x_1)$  Use the point  $(x_1, y_1)$   
use the slope (m)

Be able to graph linear equations and inequalities.

4)  $y = \frac{1}{3}x - 3$  slope:  $\frac{1}{3}$   
y-intercept: -3

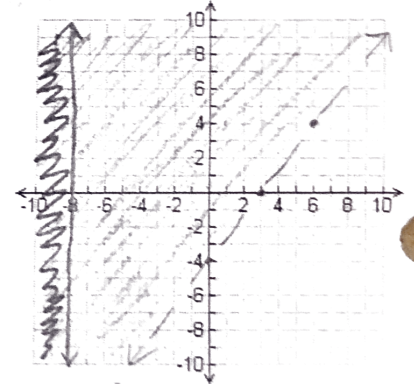
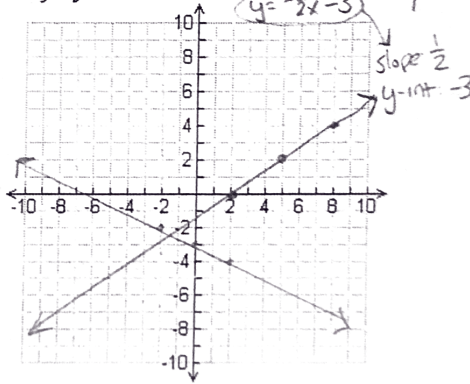
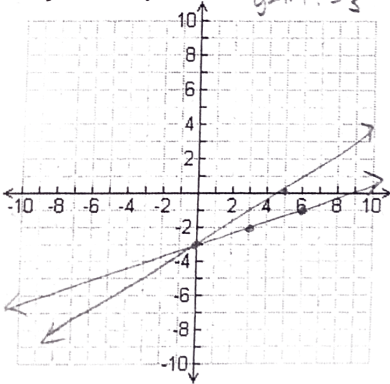
6)  $y - 2 = \frac{2}{3}(x - 5)$  slope:  $\frac{2}{3}$   
point: (5, 2)

8)  $y > \frac{4}{3}x - 4$

5)  $3x - 5y = 15$  x-int: 5  
y-int: -3

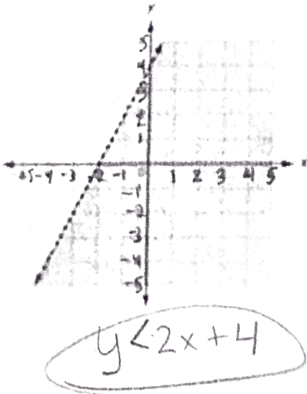
7)  $2y + 6 = -x$  solve for y  
 $2y = -x - 6$   
 $y = -\frac{1}{2}x - 3$  slope:  $-\frac{1}{2}$   
y-int: -3

9)  $x \leq -8$

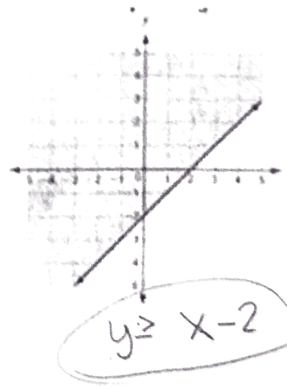


Write the linear inequality for each.

10)



11)



Be able to solve for y to put each in slope intercept form.

12)  $5x - 3y = 15$

$-3y = -5x + 15$

$-3$

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

13)  $6y - x = 10$

$6y = x + 10$

6

$y = \frac{1}{6}x + \frac{10}{6}$

$y = \frac{1}{6}x + \frac{5}{3}$

14)  $7y = -14x + 28$

$y = -2x + 4$

**Be able to find x and y intercepts from an equation.**

15) Jaime bought a jar of 50 vitamins. His two children each take one vitamin each day. The number of vitamins left in the jar after  $x$  days is represented by the function  $y = 50 - 2x$ .

a. Find the x intercept. What does it mean in terms of the situation?

$0 = 50 - 2x$       $-50 = -2x$       $25 = x \text{ int}$      After 25 days there will be no more vitamins

b. Find the y intercept. What does it mean in terms of the situation?

50 is the y-intercept. At the beginning there were 50 vitamins in the jar.

**Be able to write an equation in point-slope form.**

16) A roller skating rink offers a special rate for birthday parties. On the same day, a party for 10 skaters costs \$107 and a party for 15 skaters costs \$137.

a. Write an equation in point-slope form.

$(10, 107)$     $(15, 137)$       $\frac{137-107}{15-10} = \frac{30}{5} = 6$   
 $y - 107 = 6(x - 10)$  OR  $y - 137 = 6(x - 15)$

b. How much would a party for 12 skaters cost?

$y - 107 = 6(12 - 10)$   
 $y - 107 = 6(2)$   
 $y - 107 = 12$       $y = 119$   
 \$119

17) a. Write the equation in point-slope form for the line that passes through (4, 7) and (5, 1)

$\frac{7-1}{4-5} = \frac{6}{-1} = -6$   
 $y - 7 = -6(x - 4)$   
 OR  
 $y - 1 = -6(x - 5)$

b. Solve for y to put this equation in slope-intercept form

$y - 7 = -6(x - 4)$   
 $y - 7 = -6x + 24$   
 $y = -6x + 31$

$160 \overline{) 16000}$   
 $100 \phantom{00}$   
 $16000$   
 $\underline{16000}$   
 $0$

**Be able to graph a linear inequality and interpret solutions.**

18) A local Apple store wants to sell more than \$16,000 worth of AirPods (x) and Apple Watches (y). AirPods cost \$160 and Apple watches cost \$800.

a. Write a linear inequality for this situation.  $160x + 800y > 16,000$   
 + Graph the solution.

b. Find a solution from the graph. What does it mean in the context of the situation?

$(100, 18)$   
 If they sell 100 airpods + 18 watches they will make more than \$16,000.

