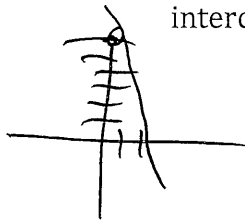


# Dublin Algebra One Semester One Exam Review Packet 2014

9. Find the slope of  $-8x + 5y = 0$ .

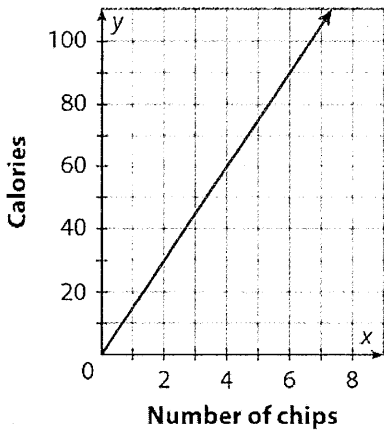
$$m = \frac{8}{5}$$



$$m = -3$$

10.

The graph below shows the relationship between the number of tortilla chips and total number of calories of the chips.



a. Find and interpret the slope.

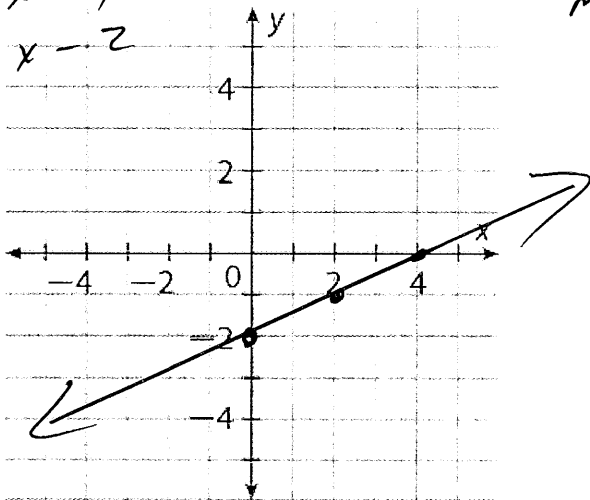
$m = \frac{15}{1}$ , represents calories per chip

b. Write an equation to represent the relationship.

$$y = 15x$$

11. Graph  $x - 2y = 4$ .

$$\begin{aligned} -2y &= -x + 4 \\ y &= \frac{1}{2}x - 2 \end{aligned}$$



12. A line has an x-intercept of 2 and a y-intercept of 6. Find the slope of the line.

13. Does problem #1 or problem #7 have the greatest rate of change? Explain how you know this.

Problem #1 slope (rate of change)  $\frac{5}{2}$  Greatest  
 Problem #7  $2$

MODULE 6

## Forms of Linear Equations

Three possible answers

$$1. \rightarrow (y - 0) = -\frac{1}{3}(x - 0)$$

Write an equation in point-slope form for a line that includes the origin and  $(9, -3)$ .

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

$$\rightarrow (y + 3) = -\frac{1}{3}(x - 9)$$

2. Line  $m$  includes the points  $(-5, 3)$  and  $(-2, -6)$ . Line  $n$  has the same slope as line  $m$  and a y-intercept of  $-\frac{2}{3}$ . Write the equation for line  $n$  in slope-intercept form.

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

$$m = \frac{9}{-3}$$

$$m = -3$$

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

Use this information for 3 and 4.

A landscape service charges customers a one-time fee and an hourly rate of \$15. For 3 hours of work, they charge \$75.

3. Write an equation in point-slope form.

$$y - 75 = 15(x - 3)$$

4. How much does the landscape service charge for 10 hours of work?

\$180

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5. Does each of the following equations describe a line that includes the points

$\left(1, -1\frac{3}{4}\right)$  and  $\left(-2, 3\frac{1}{4}\right)$ ?

A  $y = -\frac{5}{3}x - \frac{1}{12}$      Yes     No

B  $y - \frac{13}{4} = -\frac{1}{12}(x - 1)$      Yes     No

C  $20x + 12y = -1$      Yes     No

6. Write an equation in standard form for a line that passes through (2, 2) and (0, -3).

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

7. For  $f(x) = 3x + 5$  and  $g(x) = \frac{3}{4}x + 5$ , determine if each statement is True or False.

A  $f(x)$  and  $g(x)$  have the same y-intercept.     True     False

B  $f(x)$  and  $g(x)$  have the same slope.     True     False

C The graph of  $f(x)$  is steeper than the graph of  $g(x)$      True     False

D The graph of  $g(x)$  is steeper than the graph of  $y = x$ .     True     False

Use this information for 8 and 9.

Mr. Suarez drives at a speed of 60 miles per hour to visit his brother who lives 200 miles away from his home.

8. Write an equation in slope-intercept form that represents the distance  $d$  in miles from his brother's home and  $t$  is the time in hours he has been driving.

$$d = -60h + 200$$

9. Mr. Suarez's brother moved 40 miles closer to Mr. Suarez's house. Write an equation that represents this new situation.

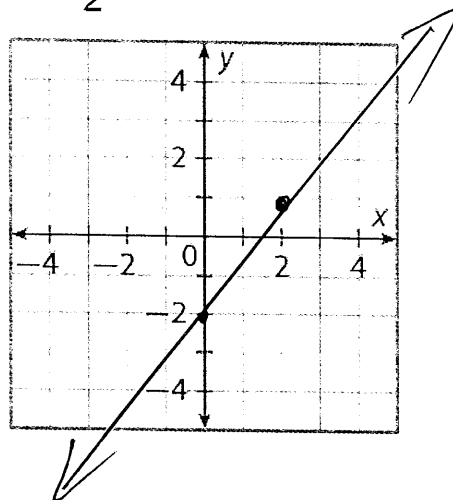
$$d = -60h + 160$$

10. Find the x- and y-intercepts of  $5x - 3y = 12$ .

x-intercept:  $\left(\frac{12}{5}, 0\right)$   
 $(2.4, 0)$

y-intercept:  $(0, -4)$

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

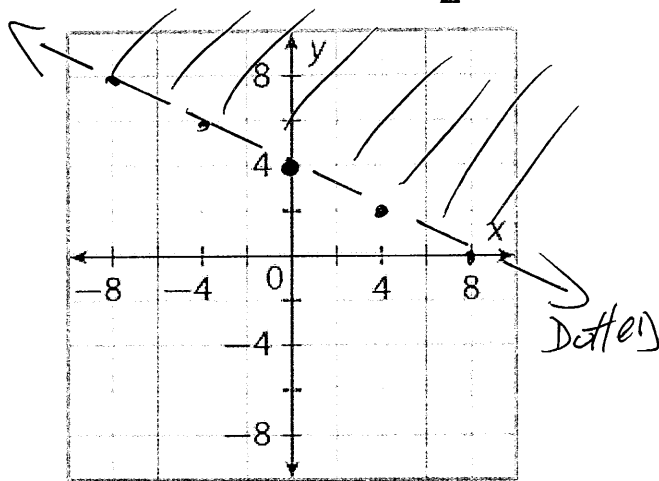




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4.

Graph the inequality  $y > -\frac{1}{2}x + 4$ .



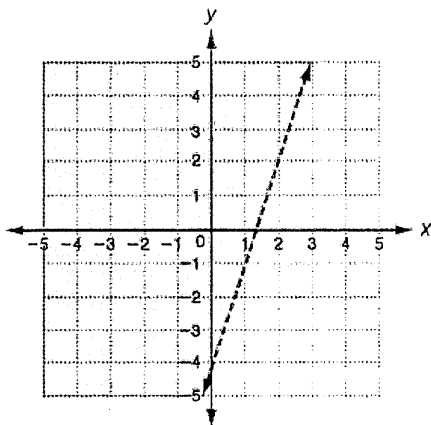
5.

Is  $(10, -7)$  a solution of  $y \geq -0.5x - 5$ ?

Explain your answer.  $-7 \geq -5 - 5$   
 $-7 \geq -10$

When I use  $x=10$  &  $y=-7$ , I get a true statement.

6. The solution of which linear inequality is graphed below?



A  $3x - y > -4$

C  $-3x + y > -4$

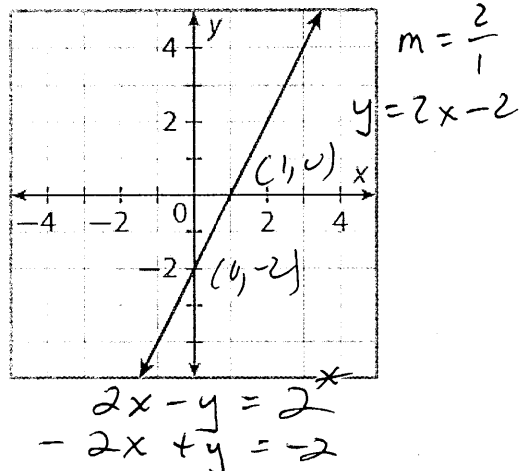
B  $3x - y < 4$

D  $3x + y < 4$

7. Is each ordered pair a solution of  $y \geq 5x - 2$ ?

- A (1, 5)  Yes  No
- B (3, 13)  Yes  No
- C (2, 9)  Yes  No

8. Write an equation in standard form to represent the line shown on the graph below.



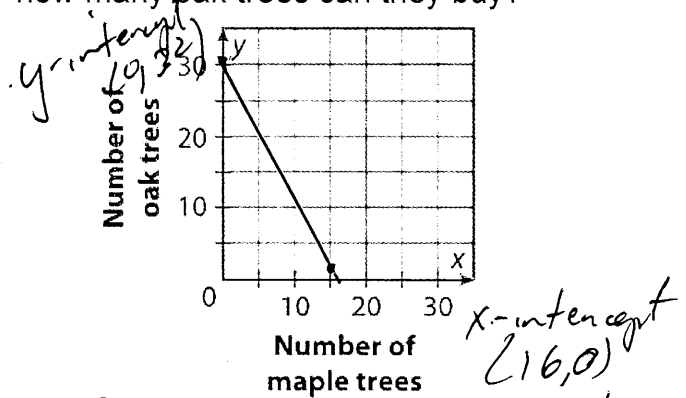
9. The Parks Department is planting trees. Maple trees cost \$50 and oak trees cost \$25. The tree-planting budget is \$800. Write a linear equation to represent the tree-planting budget.

Let  $m = \text{maples}$  &  $t = \text{oak trees}$

$$50m + 25t = 800$$

$$50m + 25t \leq 800$$

10. Graph the equation from Problem 9. If the Parks Department buys 15 maple trees, how many oak trees can they buy?



If 15 maples, then 2 oak trees