

## Bell Ringer

Tuesday 9/10

1. State the **range** of the linear function  $y = -3x + 8$  with domain  $\{5, 10, 15, 20\}$

$$R \{ -7, -22, -37, -52 \}$$

2. The order pairs  $(1, 4)$ ,  $(2, 7)$ ,  $(3, 12)$ ,  $(4, 19)$ , and  $(5, 28)$  represent a function. What is a rule that could represent this function?

~~$$y = 2x + 3$$~~

$$y = x^2 + 3$$

3. Is the function in the table linear or non-linear?

x	y
2	4
3	8
4	16
5	32
6	64



Nonlinear

4. Determine whether each category would be considered discrete or continuous.

a. Number of kids in a classroom

D

b. Height of a tree over the years

C

c. Amount of water in a tub while it's draining

C

## Week #3 Packet due!

Name \_\_\_\_\_ Hour \_\_\_\_\_

### Math 1A Honors Week #3 Packet

Date	Sections Done in Class	Homework Assigned	Homework Due Score /10
Mon 9/2	No School	No HW	x
Tue 9/3	Solving Absolute Value Inequalities – Day 2	Absolute Value Inequalities Worksheet	x
Wed 9/4	Ch 1 & 2 Review	Review Pg 45 #s 12-22 Pg 95 #s 15-20, 22-23, 24-30	2.6 Absolute Value Inequalities Pg 91 #s 1-21 odd, 35, 38, 45 /10
Thurs 9/5	Test Ch 1 & 2	No HW	Absolute Value Inequalities Worksheet /10  Review Pg 45 #s 12-22 Pg 95 #s 15-20, 22-23, 24-30 /10
Fri 9/6	3.1 Functions	3. 1 Functions Pg 108 #s 1-2, 3-21 odds, 28-29, 45-51 odds	Prepare/study for retake if needed
Mon 9/9	x	x	Prepare/study for retake if needed
Tues 9/10	x	x	3. 1 Functions Pg 108 #s 1-2, 3-21 odds, 28-29, 45-51 odds /10
<b>Bell Ringers Ch 1 and 2</b>			/7
<b>Assignment Total for Week #3</b>			<b>/47</b>

### Upcoming...

- Quiz Wed 9/11 on 3.1-3.3
- Ch 3 Test Thurs 9/19

Evaluate the expression for  $x = -12, 0,$  and  $3.$

1.  $-x - 3$

2.  $2x + 2$

3.  $3x^2 - (2x - x^3)$

$$-(-12) - 3 = 9$$

$$-(0) - 3 = -3$$

$$-(3) - 3 = -6$$

## Essential Question

How can you use function notation to represent a function?

Consider the function  $f(x) = -x + 3$ .

$f$  of  $x$

Locate the points  $(x, f(x))$  on the graph. Explain how you found each point.

a.  $(-1, f(-1))$

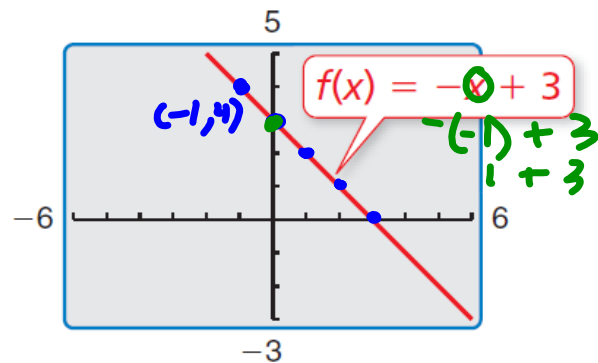
$(-1, 4)$

b.  $(0, f(0))$

$(0, 3)$

c.  $(1, f(1))$

d.  $(2, f(2))$



Evaluate  $f(x) = -4x + 7$  when  $x = 2$  and  $x = -2$ .

I do...

$$\begin{aligned} f(\underline{2}) &= -4(2) + 7 \\ &= -8 + 7 \\ &= -1 \end{aligned}$$

$$f(2) = -1$$

$$\begin{aligned} f(\underline{-2}) &= -4(-2) + 7 \\ &= 8 + 7 \\ &= 15 \end{aligned}$$

$$f(-2) = 15$$

Evaluate the function when  $x = -4, 0,$  and  $3.$

You do...

1.  $f(x) = 2x - 5$

2.  $g(x) = -x - 1$

$$\begin{aligned} f(-4) &= 2(-4) - 5 = -13 & g(-4) &= -(-4) - 1 = 3 \\ f(0) &= 2(0) - 5 = -5 & g(0) &= -0 - 1 = -1 \\ f(3) &= 2(3) - 5 = 1 & g(3) &= -(3) - 1 = -4 \end{aligned}$$

$x$	$f(x)$
$-4$	$-13$
$0$	$-5$

Let  $f(t)$  be the outside temperature ( $^{\circ}\text{F}$ )  $t$  hours after 6 a.m. Explain the meaning of each statement.

a.  $f(0) = 58$

At 6 am it's  
 $58^{\circ}$

b.  $f(6) = n$

At noon  
it's  $n^{\circ}$

c.  $f(3) < f(9)$

temp at  
9 am < temp at  
3 pm  
↳ COLDER  
THAN



**WHAT IF?** In Example 2, let  $f(t)$  be the outside temperature ( $^{\circ}\text{F}$ )  $t$  hours after 9 a.m. Explain the meaning of each statement.

**EVEN**  
a.  $f(4) = 75$

At 1 pm  
it's  $75^{\circ}$

**ODD**  
b.  $f(2) = f(9)$

11 am = 6 pm  
temp = temp

c.  $f(6) > f(0)$

temp at 3 pm  
> temp at 9 am

For  $h(x) = \frac{2}{3}x - 5$ , find the value of  $x$  for which  $h(x) = -7$ . I do...

$$\begin{aligned}
 -7 &= \frac{2}{3}x - 5 \\
 +5 & \\
 \left(\frac{3}{3}\right) - \frac{2}{1} &= \frac{2}{3}x \left(\frac{3}{3}\right) \\
 -\frac{6}{2} &= -3 \\
 x &= -3
 \end{aligned}$$

$$\begin{aligned}
 h(-3) &= \frac{2}{3}(-3) - 5 \\
 &= -2 - 5 = -7
 \end{aligned}$$

✓

Find the value of  $x$  so that the function has the given value. You do...

$$\boxed{f(x) = 6x + 9} \quad f(x) = 21$$

$$21 = 6x + 9$$
$$\begin{array}{r} 21 \\ -9 \\ \hline \end{array}$$

$$\frac{12}{6} = \frac{6x}{6}$$

$$2 = x$$

$$f(2) = 6(2) + 9 = 21$$

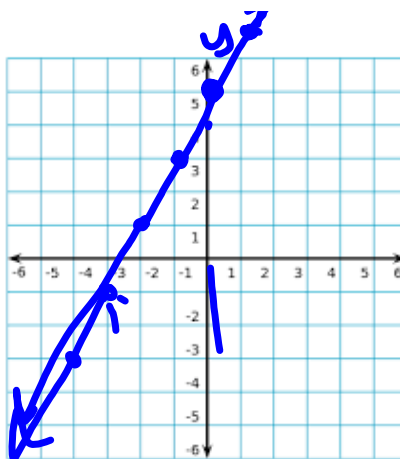
Find the value of  $x$  so that the function has the given value. You do...

$$\underset{-1}{\cancel{g(x)}} = -\frac{1}{2}x + 3; \boxed{g(x)} = -1$$

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

Graph  $f(x) = 2x + 5$ .

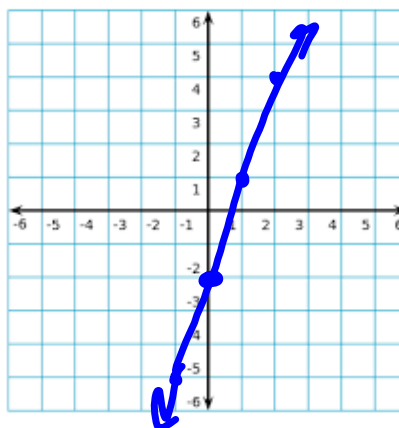
$x$	$f(x)$	
0	5	(0, 5)
1	7	(1, 7)
-2	1	(-2, 1)



I do...

Graph the linear function.

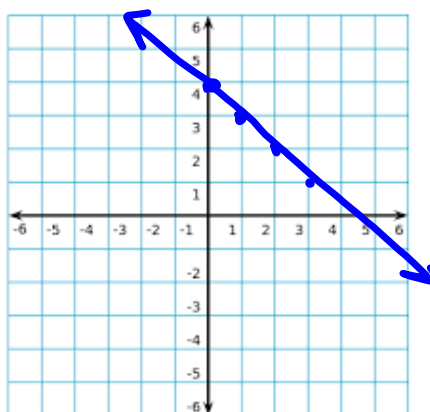
$$f(x) = 3x - 2$$



You do...

Graph the linear function.

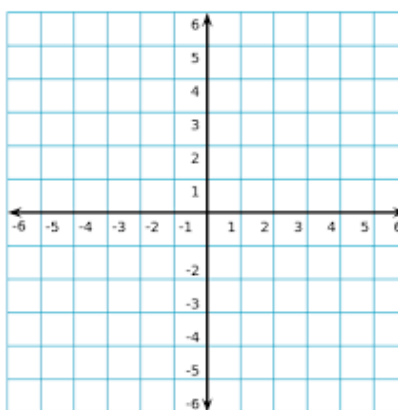
$$g(x) = -\frac{1}{2}x + 4$$



You do...

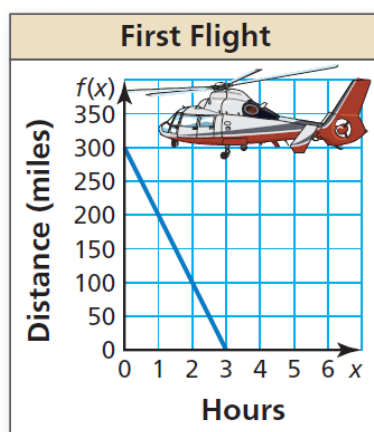
**Graph the linear function.**

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



You do...





The graph shows the number of miles a helicopter is from its destination after  $x$  hours on its first flight. On its second flight, the helicopter travels 50 miles farther and increases its speed by 25 miles per hour. The function  $f(x) = 350 - 125x$  represents the second flight, where  $f(x)$  is the number of miles the helicopter is from its destination after  $x$  hours. Which flight takes less time?

## 3.2 Linear Functions

Pg 117-119 #s 1-4, 5-19 odd, 26, 27-39 odd 52

