Unit 3 Test tomorrow!

Your homework this week is digital - Quizizz

You need to sign up for the Remind

Text 81010 and the subject should say @nicforr1

If you for some reason do not have a phone, I have a hard copy but you only get one.
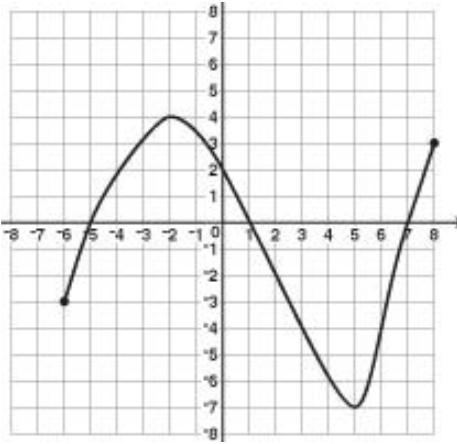
1) Answer all the questions to the right to the best of your ability. Be sure you use your flipbook if you are still stuck!

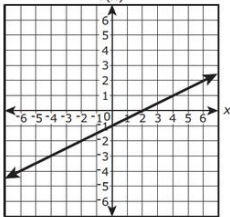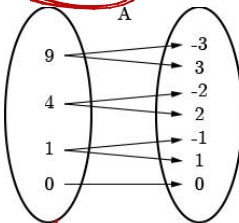| Domain	Range
$[-6,8]$	$[-7,4]$
x-intercept(s) (-5,0) (1,0) (7,0)	y-intercept (0,2)
Absolute max: (-2,4)	Absolute min: (5,-7)
Relative max: (8,3)	Relative min: (-6,-3)
Increasing: (-6,-2) (5,8)	Decreasing: (-2,5)
Constant: none	End behavior: none
Function? yes	Continuous? Discrete? Discontinuous?

2)
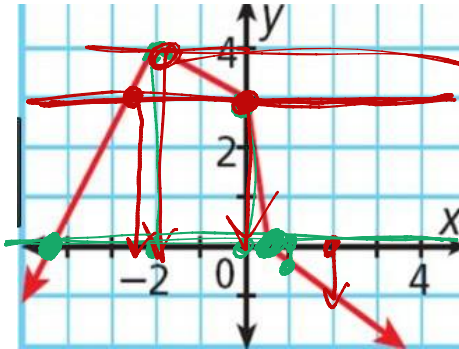
a. f(0) = 3   b. f(1) = -0.5

c. f(-2) = 4   d. f(2) = -1

  y=4

e. f(x) = 4, x = -2

f. f(x) = 0, x = ½ & -4.5

g. f(x) = 3, x = 0 & -2.5 OR -2.75

3) Tell if the following are functions or not. **Explain** how you know if it is or not? Use words here!

a.   b.   c.   d.

Yes, pass VLT   No, X values   Yes,   No, each month
                   repeat   X values   has many
                                        Don't repeat   diff.
                                                          values

Jenny is watching her credit card bill. Each month she pays $500 to it but then charges another $600 to it.

4) The average salary of a garbage man (in thousands) from 1985 to 2001 is represented by the function $f(x) = 145x + 192$ where **x** is the **number** of **years** since 1985.

a. Find the value of **f(5)**. **Explain** what the number means in terms of the problem.

$145(5) + 192 = 917$ In 5 yrs from 1985, a garbage man's salary is $917,000.

b. Find the value of **x** when **f(x) = 1000**. **Explain** what this means in terms of the problem.

$145x + 192 = 1000$ $145x = 808$ $x = 5.6$ In 5.6 yrs from 1985, a garbage man makes $1,000,000.
$-192 \quad -192$ $\frac{145}{145} \quad \frac{808}{145}$

c. Find the value of **f(10)**. **Explain** what the number means in terms of the problem.

$145(10) + 192 = 1642$ In 10 yrs from 1985, a garbage man makes $1,642,000.

d. Find the value of **x** when **f(x) = 1500**. **Explain** what this means in terms of the problem.

$145x + 192 = 1500$ $145x = 1308$ $x = 9$ In 1994, a garbage man will make $1,500,000.
$-192 \quad -192$ $\frac{145}{145} \quad \frac{1308}{145}$

5) Given $f(x) = -10x - 9$ *and* $j(x) = 7x + 4$ answer the following.

a. f(x) + j(x)	b. f(0) + j(2)	c. j(-3) – f(-3)	d. j(x) – f(x)
$-10x - 9 + 7x + 4$	$x=0 \quad x=2$	$x=3 \quad x=-3$	
$\boxed{-3x - 5}$	$-10(0) - 9 \quad 7(2) + 4$	$-10(-3) - 9$	$7x + 4 - (-10x - 9)$
	$-9 + 18$	$7(-3) + 4$	$7x + 4 + 10x + 9$
	$\boxed{9}$	$-17 - 21$	$\boxed{17x + 13}$
		$\boxed{-38}$	

6) Write **out** all the **definitions** for the following words.

    a. Domain   b. Range   c. x-intercept   d. y-intercept

    e. Absolute max   f. Absolute min   g. Relative max   h. Relative min

    j. End behavior   k. Constant   m. Increasing   n. Decreasing

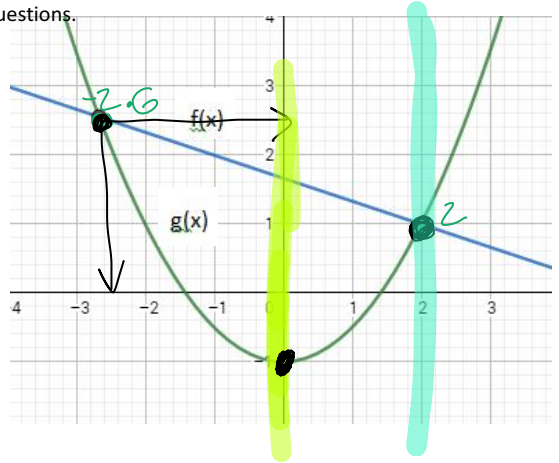7) Given the following graph, answer the following questions.

   a. When is f(x) > g(x)?
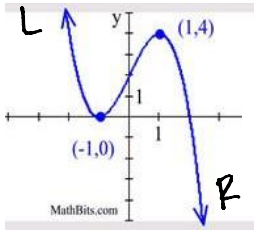
   $(-2.6, 2)$

   b. Where is f(x) = g(x)?

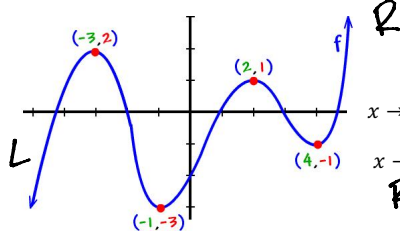 $(2, 1)$ $(-2.6, 2.5)$

   c. What is the value of f(2) + g(0)?

   $x = 2$ $1 + -1 = 0$

8) Label the end behavior for the following graphs. Be sure you watch your negatives and positives.
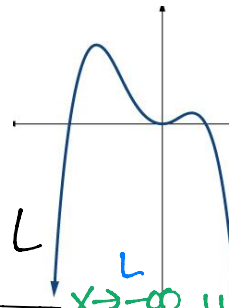
(1,4)
(-1,0)
MathBits.com

L
R

$x \to -\infty, \ y \to \infty$

$x \to \infty, \ y \to -\infty$

(-3,2)   (2,1)
(-1,-3)   (4,-1)
f

L
R

$x \to -\infty, \ y \to -\infty$

$x \to \infty, \ y \to \infty$

g
L
R

$x \to -\infty, \ y \to \infty$

$x \to \infty, \ y \to \infty$

Asymptote
-3

L
R
f

$x \to -\infty, \ y \to -\infty$

$x \to \infty, \ y \to -\infty$

$x \to -\infty \quad y \to \infty$

$x \to \infty \quad y \to -3$
Flat
Asymptote
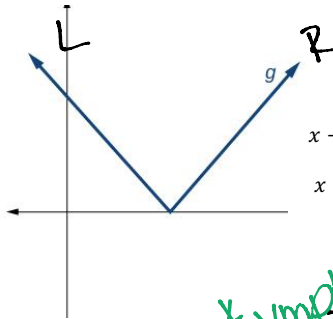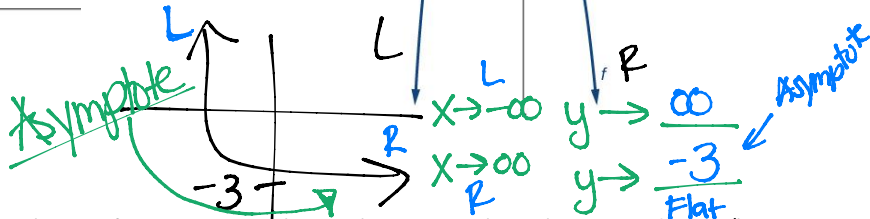
9) How do you know if something is a function or not? What are the two main things that you need to test/know in order to prove something a function or not?

   ∗ X values do not repeat   ∗ Only cross y-axis once
   ∗ Pass Vertical line test   ∗ Every input has only one output