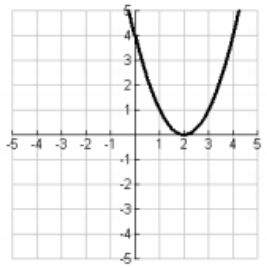
Algebra II
Functions Review

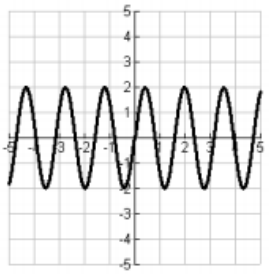
Name_____ **Date**_____

Find the domain & range of each graph, then state whether it is a function or not

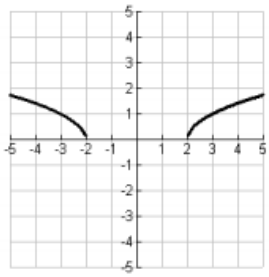
1.



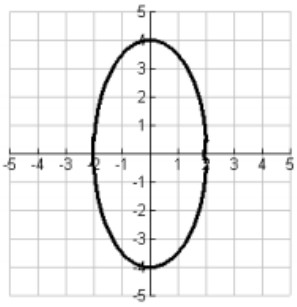
2.



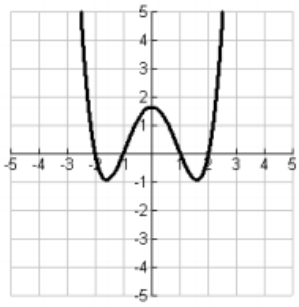
3.



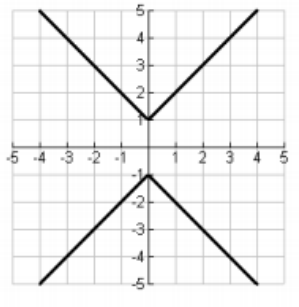
4.



5.



6.



7. Evaluate the following expressions given the functions below:

$g(x) = -3x + 1$ $\quad f(x) = x^2 + 7$ $\quad h(x) = \frac{12}{x}$

a. $g(10) =$ **b.** $f(3) =$ **c.** $h(-2) =$

d. Find x if $g(x) = 16$ **e.** Find x if $h(x) = -2$ **f.** Find x if $f(x) = 23$

8. Let $f(x) = 3x + 2$ and $g(x) = 5x - 7$, find the following:

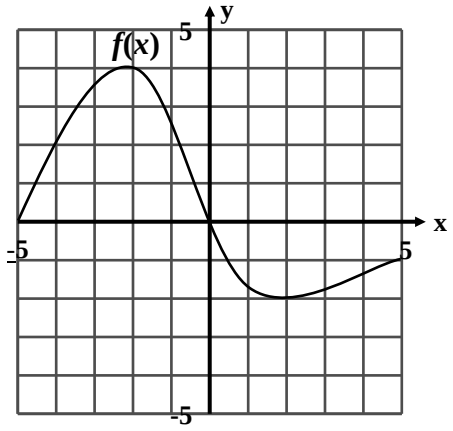
a. $(f + g)(x)$

b. $(f - g)(x)$

c. $(fg)(x)$

d. $(f + g)(5)$

9. Given this graph of the function f(x):



Find:

a. $f(-4)$ = **b.** $f(0)$ = **c.** $f(3)$ = **d.** $f(-5)$ =

e. x when $f(x) = 2$ **f.** x when $f(x) = 0$

10. Joe had a summer job that pays $7.00 an hour and he worked between 15 and 35 hours every week. His weekly salary can be modeled by the equation: S = 7h, where S is his weekly salary and h is the number of hours he worked in a week.

a) Describe the independent variable for this problem.

b) Describe the domain and range for this problem using appropriate notation.
Domain: Range:

c) What does the statement f(20)=140 mean in context of this problem?

Answers:
1) D: All real #s, R: $y \geq 0$; Yes, is a function
2) D: All real #s, R: $-2 \leq y \leq 2$; Yes, is a function
3) D: $x \geq 2$ and $x \leq -2$, R:$y \geq 0$; Yes is a function
4) D: $-2 \leq x \leq 2$, R: $-4 \leq y \leq 4$; Not a function
5) D: All real #s, R: $y \geq 0$, Yes, is a function
6) D: All real #s, R: $y \geq 1$ and $y \leq -1$; Not a function
7) a- g(10)=-29 b- f(3)=16 c- h(-2)=6 d- x=-5 e- x=-6 f- x=4
8) a- 8x-5 b- -2x+9 c- $15x^2-11x-14$ d- 35
9) a- f(-4)=2 b- f(0)=0 c- f(3)=-1.75 d- f(-5)=0 e- x=-4 or x=-0.75 f- x=-5 or x=0
10) a- Number of hours worked; b- D: $15 \leq x \leq 35$, R: $105 \leq y \leq 245$; c- He makes $140 for working 20 hours