Name _____

1 a) Write a set of four ordered pairs that represents a function. Give the domain and range.

b) Write a set of four ordered pairs that is not a function. Give the domain and range of the relation.

c) In words, describe what is meant by a function:

d) In words, describe what is meant by the domain and range of a function:

2. Determine if the following show a function. How did you decide?
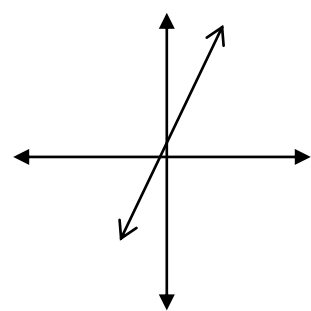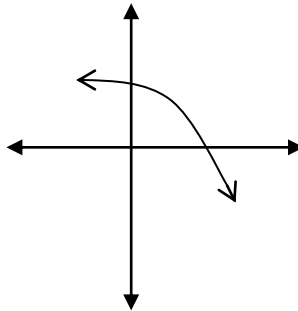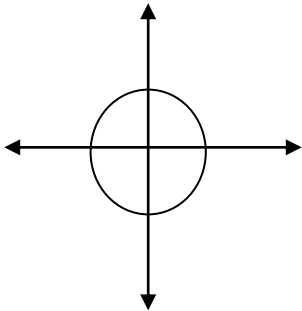
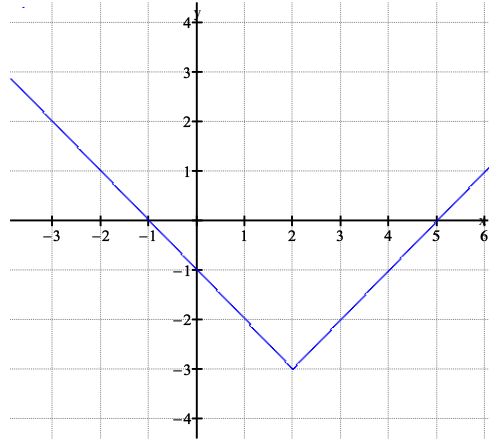3. From the equation $f(x)=-\dfrac{3}{4}x-2$ determine the slope and y-intercept.

Slope: _____   y-intercept: _____

4. Given the graph:

a) find f(-3): _____

b) find all value of x such that f(x) = -1

_____

5. Given $f(x) = 2x^2 + 2,$ $g(x) = -x^2 + 3x$ find the following.

a.) *f(1)*

a)_____

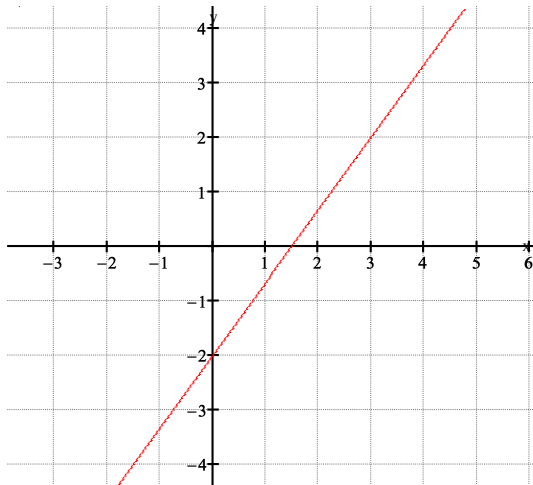b) *f(-1)*

b)_____

c) *g(3)*

c)_____

6. From the given graph, determine the slope and y-intercept.

Slope: _____

y-intercept: _____

7. Find the equation of the line in <u>slope intercept form</u> which passes through (5, 6) and is **parallel** to y = -2x + 1

_____

8. Write the equation of a line in slope intercept form through (-3, 2) and **perpendicular** to the line:

    y = 3x + 1

_____

9. The yearly cost of in-state tuition and required fees for attending a public two-year college full time can be estimated by the linear function
    $$f(x)=108.4x+1236.75,$$
    where x is the number of years after 2000 and f(x) is the cost.

a) Use the function to estimate the cost of tuition in 2015:_____

b) Find and interpret the slope.

c) Find and interpret the y-intercept:.

10. Determine the number of solutions of each system of equations. *(You do not need to solve).*

a)
$$y = -x + 2$$
$$y = -x + 1$$
　　　　　　　　　　　　　_____

b)
$$y = 3x + 4$$
$$y = 6x + 2$$
　　　　　　　　　　　　　_____
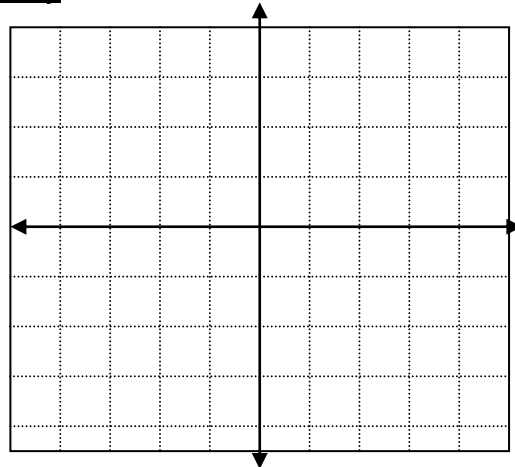
c)
$$y = \frac{1}{2}x + 1$$
$$2y = x + 2$$
　　　　　　　　　　　　　_____

11. Solve by graphing. If the solution is unique write the answer as an ordered pair **and** <u>check</u> <u>your solution algebraically</u>.

$$y = -2x - 4$$
$$x - 3y = -9$$

_____

12. Solve by substitution or elimination. If the solution is unique write the answer as an ordered pair **and** check your solution algebraically.

a) $\begin{array}{l} x - 2y = -1 \\ 3x - 7y = 4 \end{array}$

_____

b) $\begin{array}{l} y = -x + 3 \\ 2x + 2y = 6 \end{array}$

_____

c) $\begin{array}{l} y = 3x - 6 \\ 3x - y = 12 \end{array}$

_____

13. Jim sold 3 adult tickets and 4 student tickets for $18. Cheryl sold 5 adult tickets and 3 student tickets for $24.50. What was the price of each type of ticket?

a) Define your variables

b) Write and solve your system

c) Write your answer as an ordered pair and then as a complete sentence.

14. Beth invested $6000 in two savings accounts. One account earns interest at 6.25% and the other at 10.6%. If her annual interest income is $527.25, find the amount she invested in each account.

a) Define your variables

b) Write and solve your system

c) Write your answer as an ordered pair and then as a complete sentence.