

Algebra 2 Chapter 2 Pre-Test

1.) (8 pts total, 4 pts each) For the following function, determine $f(3)$ and $f(-2)$.

a) $f(x) = x^2 - 4x + 5$

b) $f(x) = \frac{5x-6}{2x}$

2.) (8 pts total, 4 pts each) Suppose $f(x) = 3x - 5$ and $g(x) = x^2 + 6$

a) Find $\frac{g(3)}{f(2)}$.

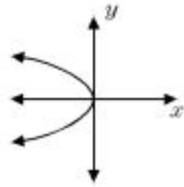
For what value(s) of x would $\frac{g(x)}{f(x)}$ not be a function, if any.

b) Find $f(-1) \cdot g(0)$

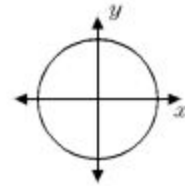
For what value(s) of x would $f(x) \cdot g(x)$ not be a function, if any.

3.) (8 pts total, 2 pts each) Which of the following graphs represents a function? Write either "function" or "not a function".

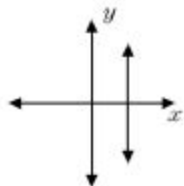
a)



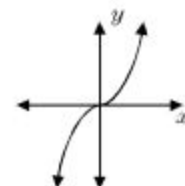
b)



c)



d)



4.) (8 pts total, 4 pts each) Write the equation for the line formed by each slope and point. Include both slope-intercept and point-slope forms.

a) $(-2, 4)$, $m = -3$

b) $(0, -5)$, $m = \frac{1}{2}$

5.) (8 pts total, 4 pts each) Find the slope and intercepts for each of the following lines:

a) $4x + 6y = -12$

b) $7x - 2y = 10$

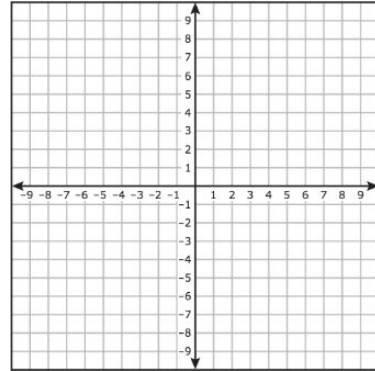
6.) (8 pts total, 4 pts each) Find the slope for each of the following:

a) $(-5, 3)$ and $(7, -1)$

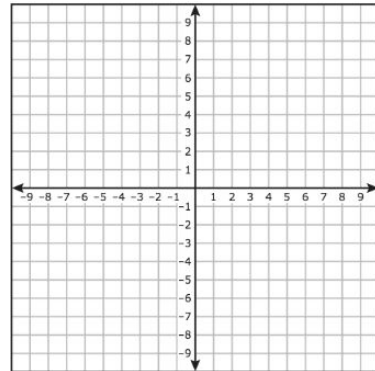
b) $(-2, 6)$ and $(4, -9)$

7.) (8 pts total, 4 pts each) Graph each of the following equations:

a) $5x - 10y = 20$



b) $16x + 8y = 48$



8.) (8 pts total, 4 pts each) Determine the equation for each of the following:

a) Write the equation for a line through $(-2, 7)$ and perpendicular to $y = -2x + 5$.

b) Write the equation for a line parallel to $y = 3x - 2$ that passes through $(1, -3)$

9.) (8 pts total, 4 pts each) Each of the following depicts a direct variation function. For each, find the constant of variation and show the relationship in an equation.

a) If $y = 12$ when $x = 3$

Find y when $x = 9$

b) If $y = -6$ when $x = 15$

Find x when $y = 2$

10.) (8 pts total, 4 pts each) For each of the following, determine whether y varies directly with x . If so, find the constant of variation and write the equation.

a)

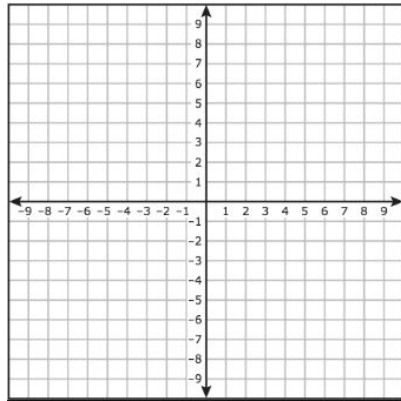
x	y
-1	-4
2	8
3	12

b)

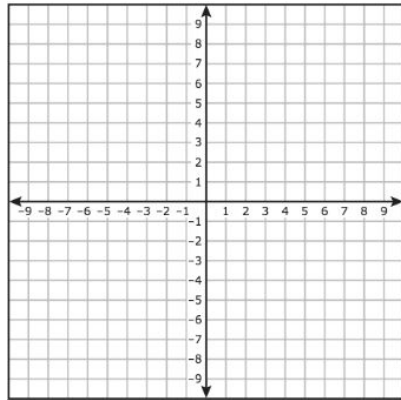
x	y
-3	9
0	1
1	4

11.) (6 pts total, 3 pts each) For each of the following, find the vertex of the absolute value function. Then graph the function.

a) $f(x) = |2x + 3| - 5$

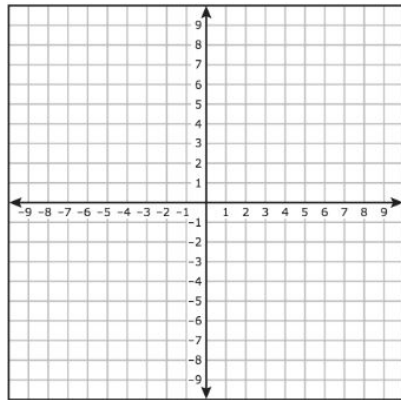


b) $f(x) = |1/2x - 2| + 6$

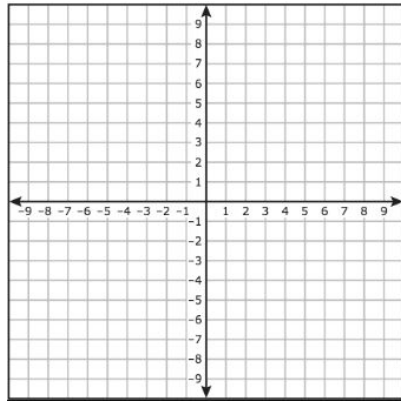


12.) (6 pts total, 3 pts each) For each of the following, find the vertex of the absolute value function. Then graph the function.

a) $f(x) = |x - 6|$

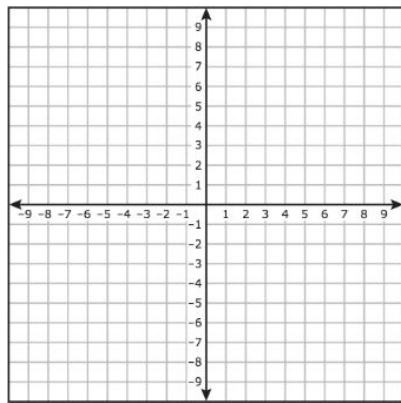


b) $f(x) = |x| + 3$



13.) (8 pts total, 4 pts each) For each of the following, graph the inequality.

a) $y > 3x - 1$



b) $4x - 2y \leq 12$

