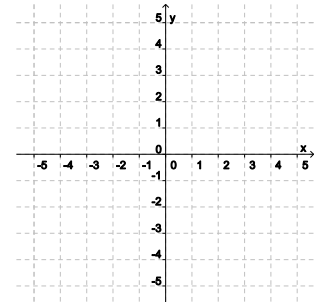
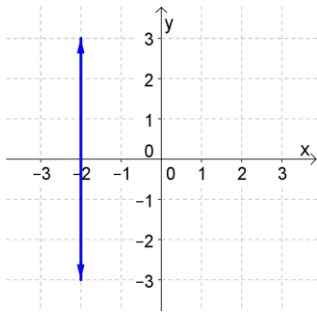


1. Find an equation of the line through  $(-3, 5)$  with slope  $-2$ . Then rewrite the equation in slope-intercept form. Finally, graph the line.

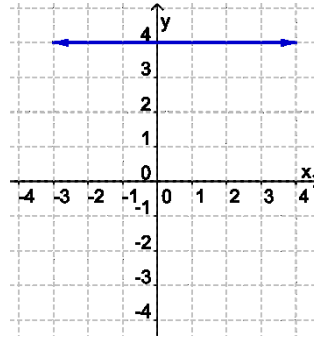


2. Write the equations and slopes for the following lines.



Equation: \_\_\_\_\_

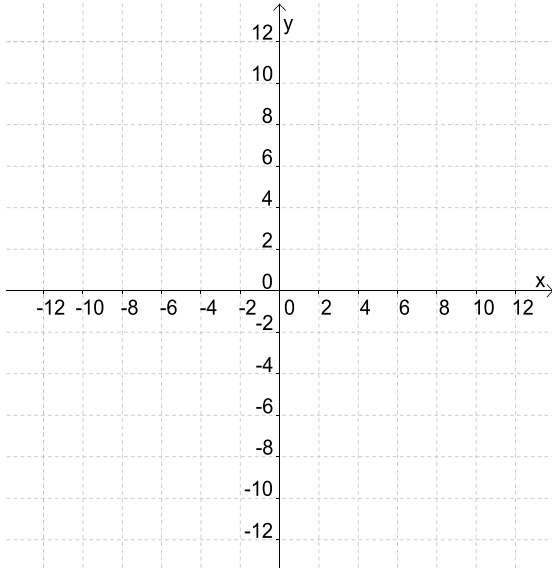
Slope: \_\_\_\_\_



Equation: \_\_\_\_\_

Slope: \_\_\_\_\_

3. Graph  $f(x) = 2x^2 - 12x + 10$  by finding and plotting the vertex,  $x$ -intercepts, and  $y$ -intercept.



4. Suppose  $f(x) = \begin{cases} -5 & \text{if } x < -1 \\ x^2 + 1 & \text{if } -1 \leq x < 2 \\ 2 - x & \text{if } x \geq 2 \end{cases}$ . Find  $f(1)$ ,  $f(2)$ , and  $f(-2)$ .

5. Find  $\frac{f(x+h)-f(x)}{h}$  where  $f(x) = 5x + 2$ . Simplify.

6. Suppose the demand function for  $x$  thousand units of a keyboard is:

$$p(x) = -0.27x + 51 \text{ (in dollars)}$$

and the cost of producing  $x$  thousand units is:

$$C(x) = 2.23x^2 + 3.5x + 85 \text{ (in thousands of dollars).}$$

Find the revenue and profit functions.

7. Factor completely.

a)  $x^2 - 4x + 3$

b)  $x^2 + x - 6$

c)  $x^2 - 4x$

d)  $8x^3 - 8x$

e)  $6x^2 + 6x - 12$

f)  $12x^3 - 3x$