

NAME: _____

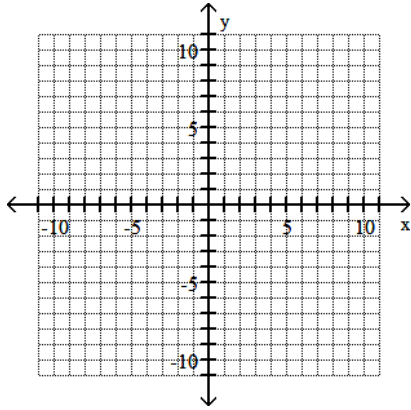
SHOW ALL WORK FOR CREDIT, NO WORK = NO CREDIT

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

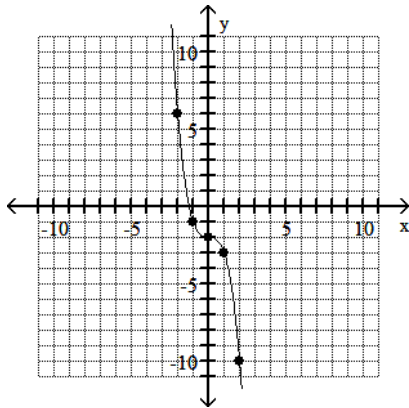
Graph the equation. Select integers for x , $-3 \leq x \leq 3$.

1) $y = x^3 + 2$

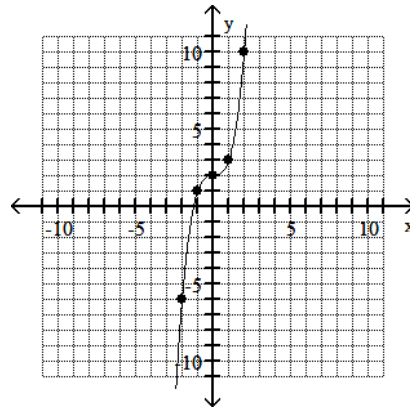
1) _____



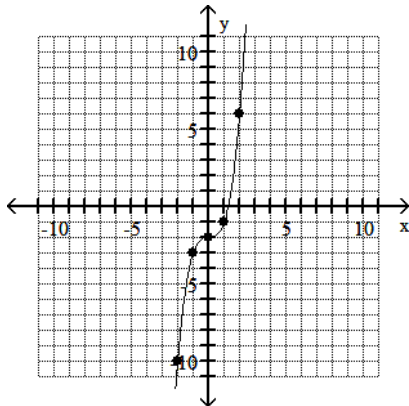
A)



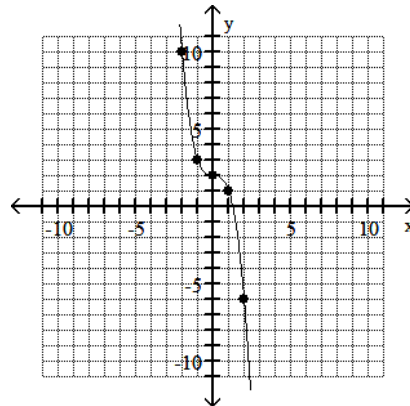
B)



C)



D)



Find f of each given value of x .

2) $f(x) = 9x - 6$

a. $f(-5)$

b. $f(-7)$

2) _____

A) -51, -69

B) 270, 378

C) -270, -378

D) -39, -57

The function $f(x) = 0.81x + 168.3$ models the cholesterol level of an American woman as a function of her age, x , in years. Use the function to solve the problem.

3) Find $f(30)$.

3) _____

A) 4089.69

B) 192.6

C) 199.11

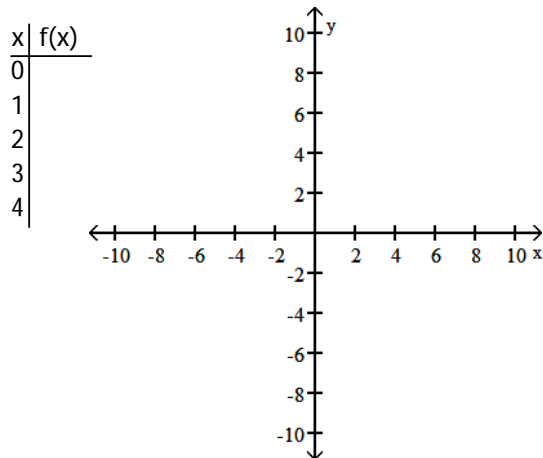
D) 144

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Evaluate $f(x)$ for the given values for x . Then use the ordered pairs $(x, f(x))$ from your table to graph the function.

4) $f(x) = (x - 1)^2$

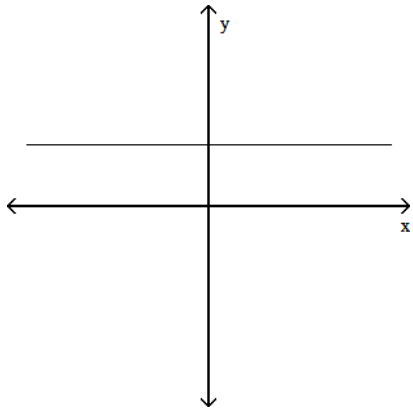
4) _____



MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Use the vertical line test to determine if y is a function of x .

5)



A) Function

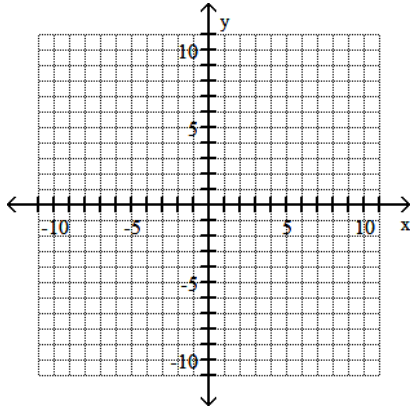
B) Not a function

5) _____

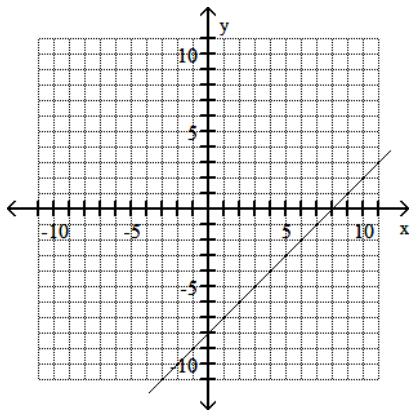
Use the x- and y-intercepts to graph the linear equation.

6) $x - 4y = -8$

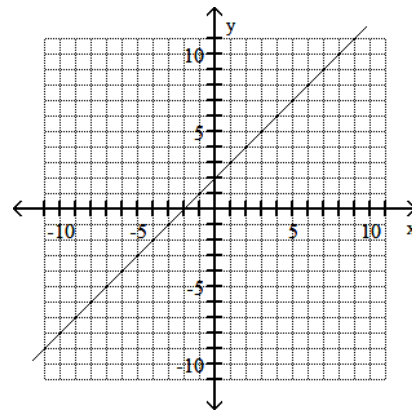
6) _____



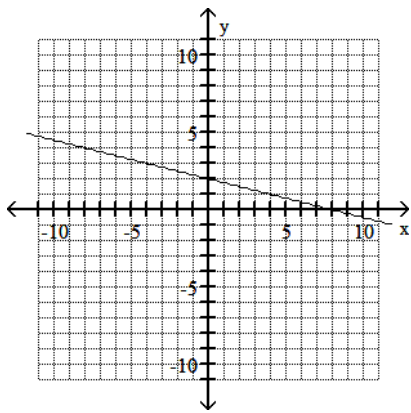
A)



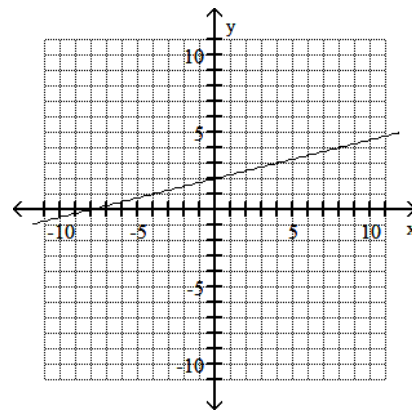
B)



C)



D)



Calculate the slope of the line passing through the given points. If the slope is undefined, so state. Then indicate whether the line rises, falls, is horizontal, or is vertical.

7) $(-1, 5), (-9, 5)$

7) _____

A) 12, rises

B) 4, rises

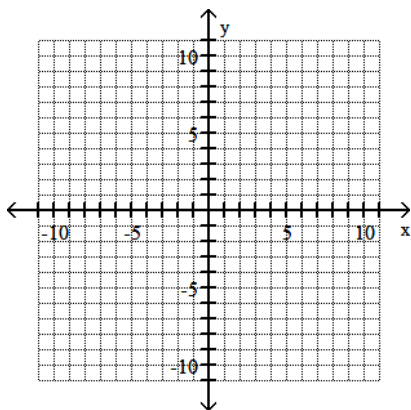
C) 0, is horizontal

D) 1, rises

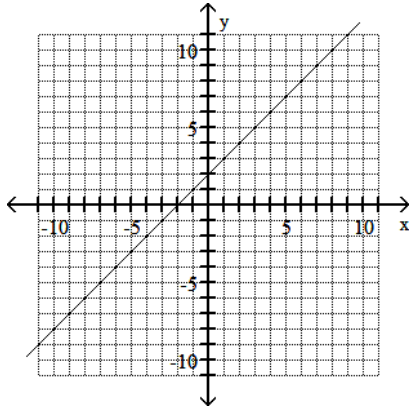
Graph the linear function using the slope and y-intercept.

8) $y = -\frac{1}{4}x + 2$

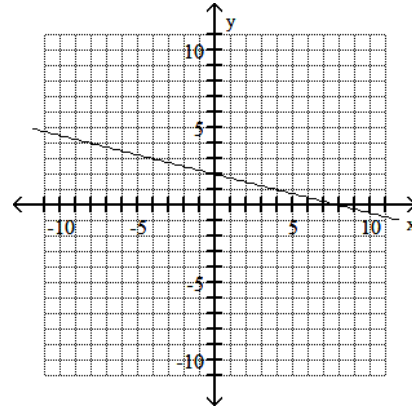
8) _____



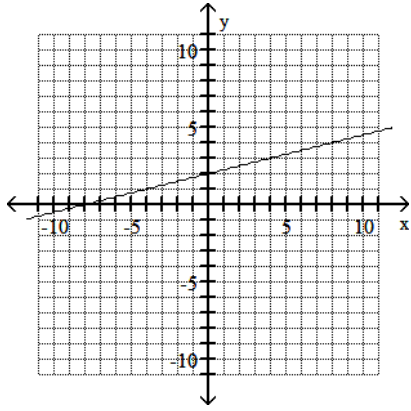
A)



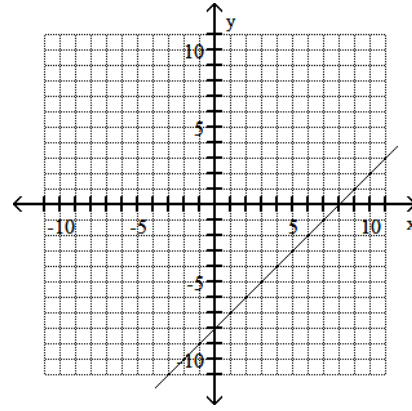
B)



C)



D)



Determine whether the given ordered pair is a solution to the system.

9) (3, -5)

$$4x + y = 7$$

$$2x + 4y = -14$$

A) yes

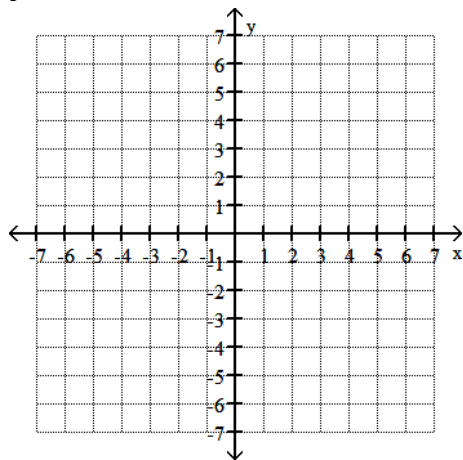
B) no

9) _____

Solve the system by graphing. Check the coordinates of the intersection point in both equations.

10) $y = x + 4$

$$y = 6x - 1$$



A) $\{(1, 5)\}$

B) $\{(0, -5)\}$

C) $\{(-1, 3)\}$

D) $\{(0, 5)\}$

10) _____

Solve the system by the substitution method. Be sure to check all proposed solutions.

$$\begin{aligned} 11) \quad x + y &= 8 \\ y &= 3x \end{aligned}$$

11) _____

A) $\{(-2, 10)\}$

B) $\{(3, 5)\}$

C) $\{(1, 7)\}$

D) $\{(2, 6)\}$

Solve the system by the addition method. Be sure to check all proposed solutions.

$$\begin{aligned} 12) \quad x + 5y &= -14 \\ 2x + 4y &= -10 \end{aligned}$$

12) _____

A) $\{(-1, -2)\}$

B) $\{(0, -2)\}$

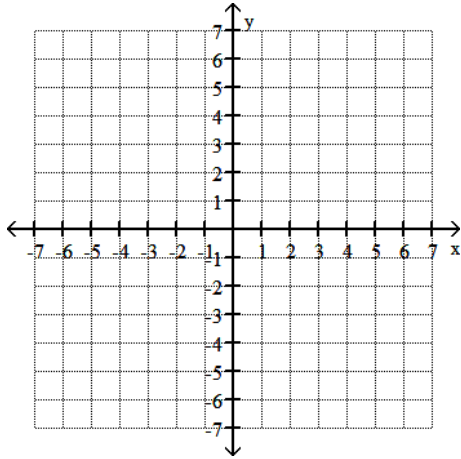
C) $\{(1, -3)\}$

D) \emptyset

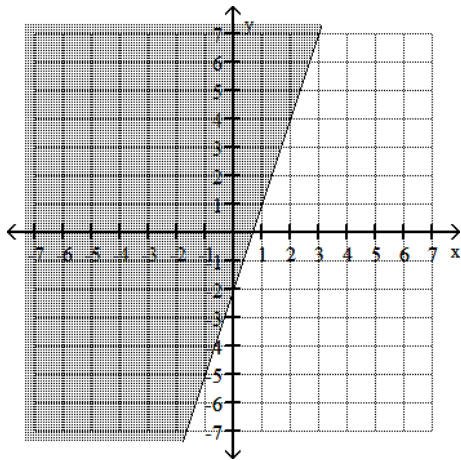
Graph the linear inequality.

13) $y \leq 3x - 2$

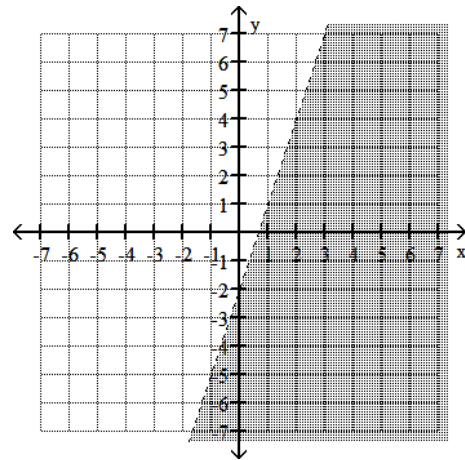
13) _____



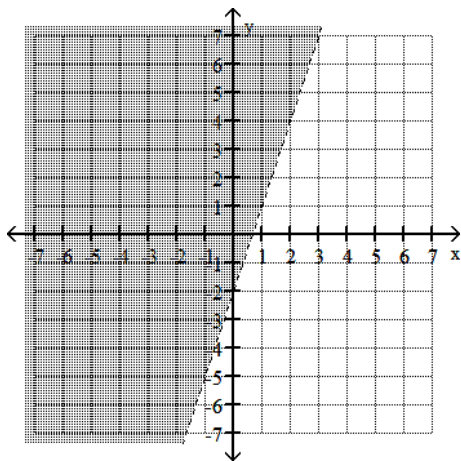
A)



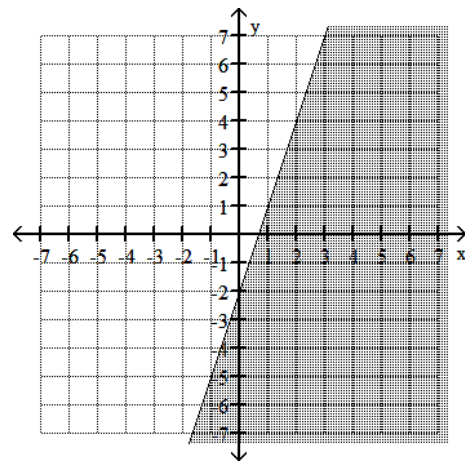
B)



C)



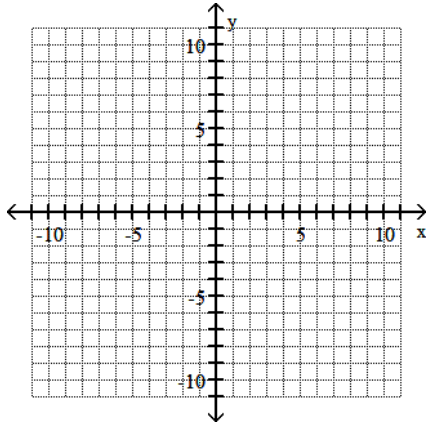
D)



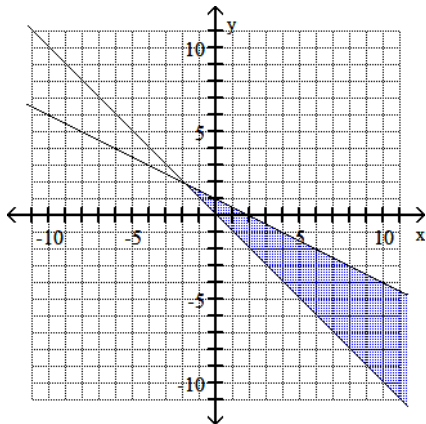
Graph the system of inequalities.

14) $x + 2y \geq 2$
 $x - y \leq 0$

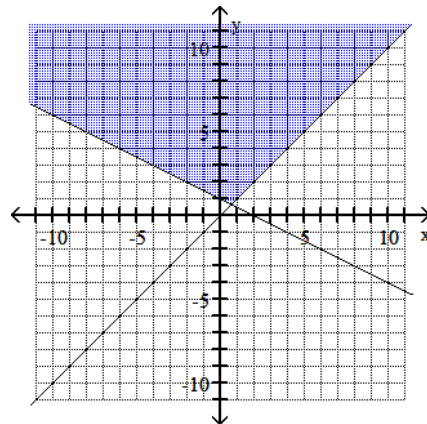
14) _____



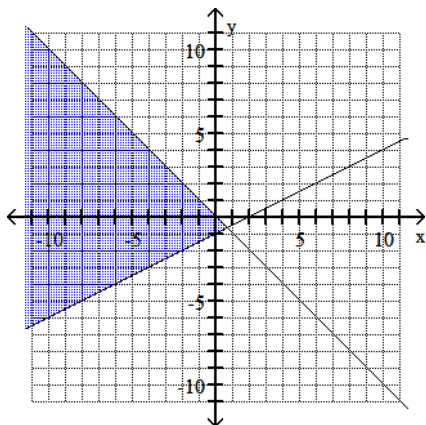
A)



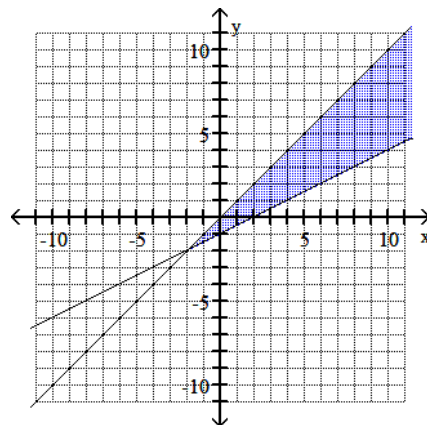
B)



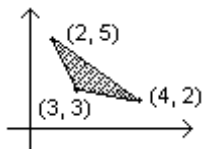
C)



D)



Find the value of the objective function at each corner of the graphed region. Use this information to answer the question.



15) Objective Function $z = -x - 8y$

15) _____

What is the maximum value of the objective function?

A) -34

B) -27

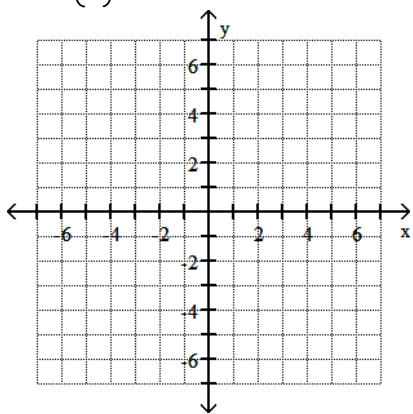
C) -42

D) -20

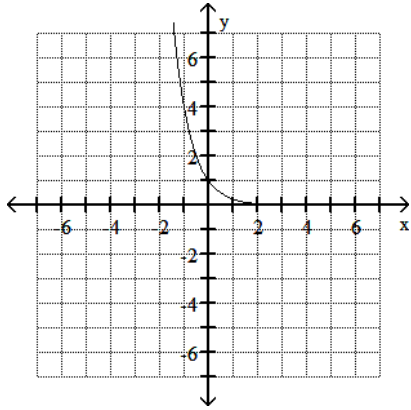
Graph the exponential function whose equation is given. Start by using -2, -1, 0, 1, and 2 for x and finding the corresponding values for y.

16) $f(x) = \left(\frac{1}{4}\right)^x$

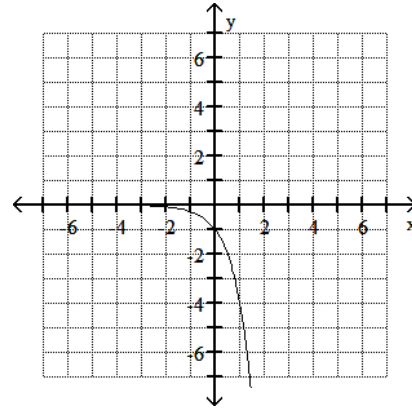
16) _____



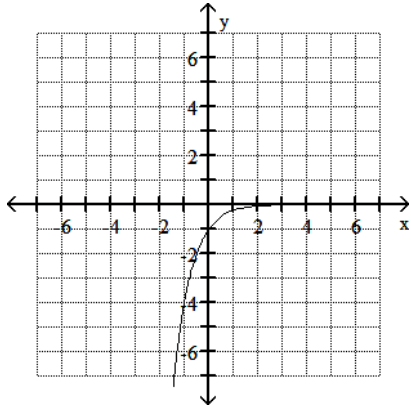
A)



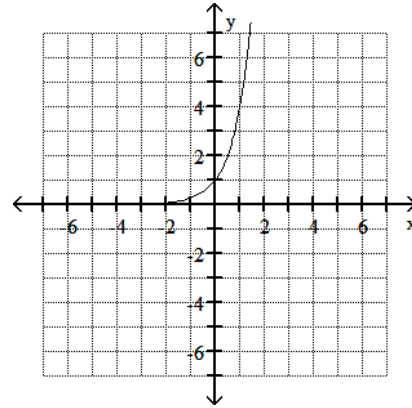
B)



C)



D)



Determine if the parabola whose equation is given opens upward or downward.

17) $y = 3x^2 + 2x - 9$

A) downward

B) upward

17) _____

Find the x-intercepts for the parabola whose equation is given. If the x-intercepts are irrational, round your answers to the nearest tenth.

18) $y = 2x^2 + 11x - 63$

18) _____

A) x-intercepts (7, 0) and (-4.5, 0)

B) x-intercepts (7, 0) and (4.5, 0)

C) x-intercepts (-9, 0) and (3.5, 0)

D) x-intercepts (-9, 0) and (-3.5, 0)

Find the y-intercepts for the parabola whose equation is given. If the y-intercepts are irrational, round your answers to the nearest tenth.

19) $y = x^2 + 4x - 7$

19) _____

A) y-intercept (0, 7)

B) y-intercept (0, -7)

C) y-intercept (0, -12)

D) No y-intercept