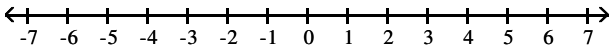
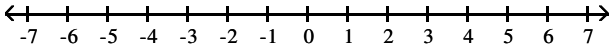
MATH 60/GRACEY
8.1-8.2 Name_____

Write the inequality using interval notation. Graph the inequality.

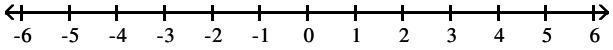
1) $-2 \le x \le 2$



2) $x \ge 4$

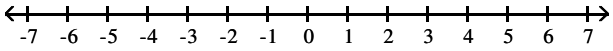


3) $x > \frac{9}{2}$

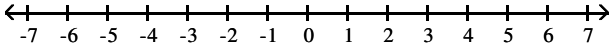


Write the interval as an inequality involving x. Graph the inequality.

4) $(3, 7)$



5) $[5, \infty)$



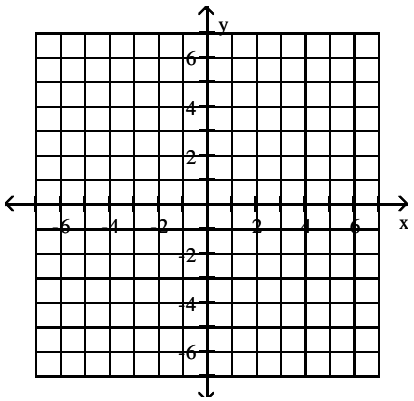
Name the quadrant or axis in which the point lies.

6) $(-14, 0)$

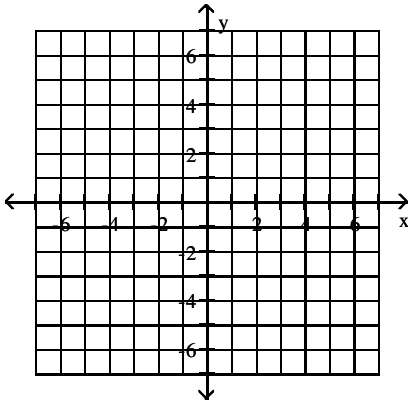
7) $(12, 18)$

Plot the point.

8) $(-4, 6)$



9) (0, –2)



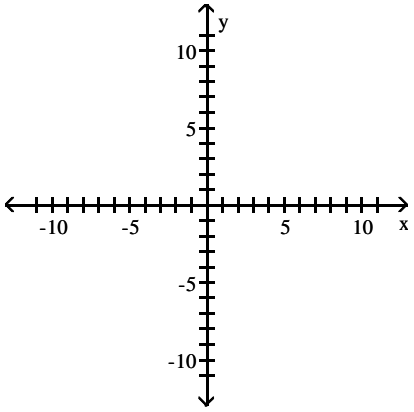
Determine whether the given points are on the graph of the equation.

10) $y = 9|x|$; (–8, 72)

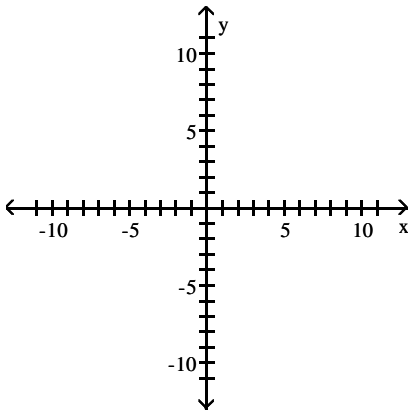
11) $y = -5x - 3$; (–4, 17)

Graph the equation by plotting points.

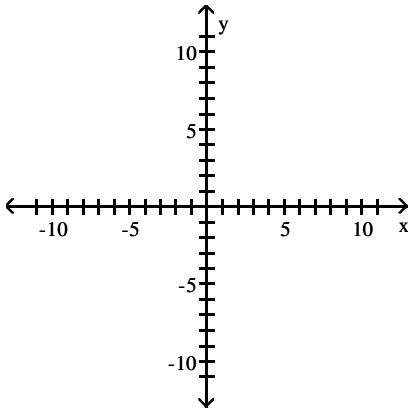
12) $y = |x| + 3$



13) $y = x - 6$

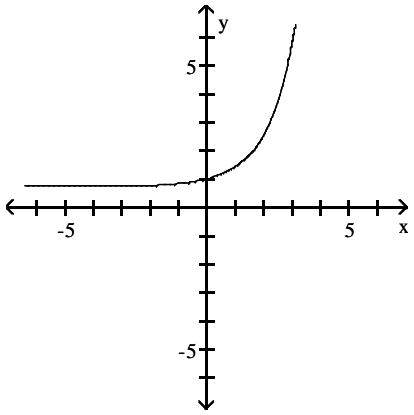


14) $y = -3x$

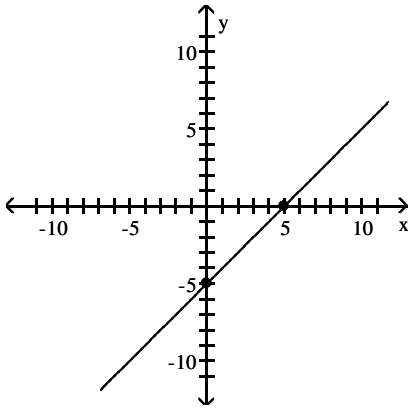


List the intercepts of the graph.

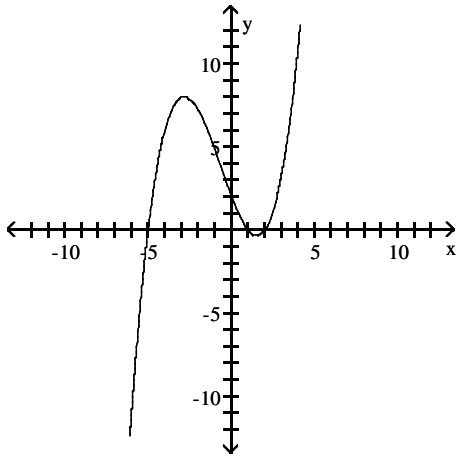
15)



16)

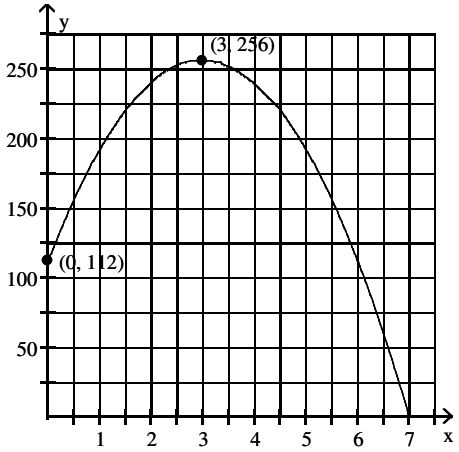


17)



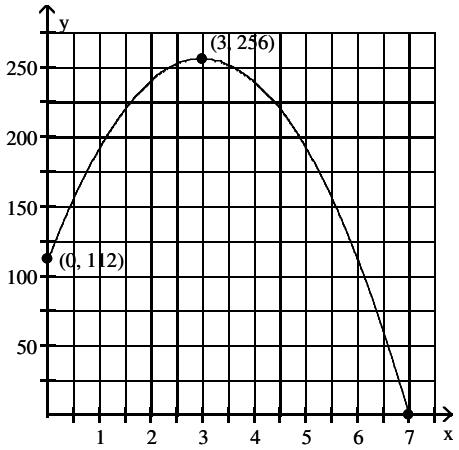
Solve the problem.

18) The graph below shows the height, in feet, of a ball thrown straight up with an initial speed of 96 feet per second from an initial height of 112 feet after t seconds.



What is the height of the ball after 2.5 seconds?

19) The graph below shows the height, in feet, of a ball thrown straight up with an initial speed of 96 feet per second from an initial height of 112 feet after t seconds.

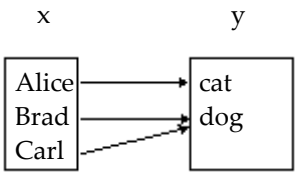


At what time does the ball hit the ground? How do you know?

Provide an appropriate response.

20) If a relation exists between x and y, then we say that x _____ y or that y _____ x, and we write $x \rightarrow y$.

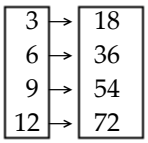
21) Use the map to represent the relation as a set of ordered pairs.



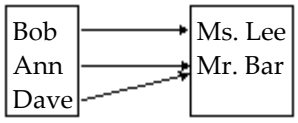
22) Use the set of ordered pairs to represent the relation as a map.
{(5, 25), (6, 30), (7, 35), (8, 40)}

Identify the domain and range of the relation.

23)



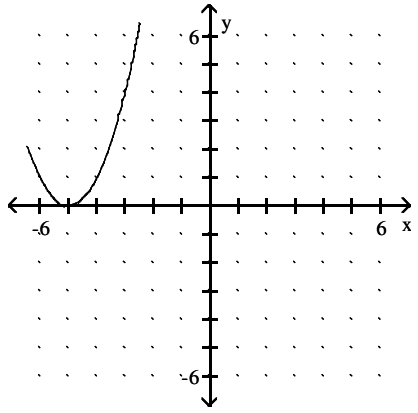
24)



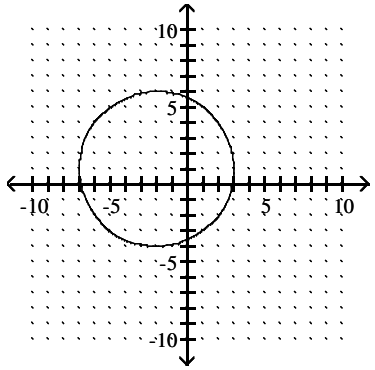
25) {(–4, 21), (–3, 14), (0, 5), (3, 14), (5, 30)}

Identify the domain and the range of the relation from the graph.

26)

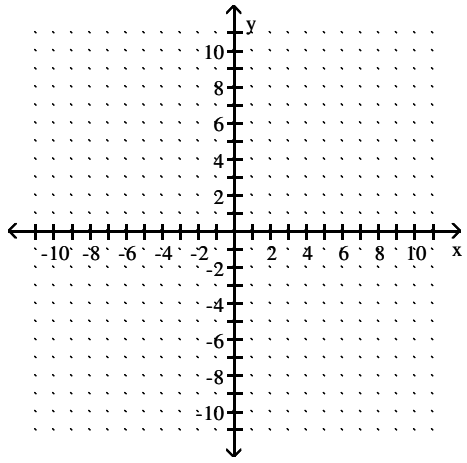


27)

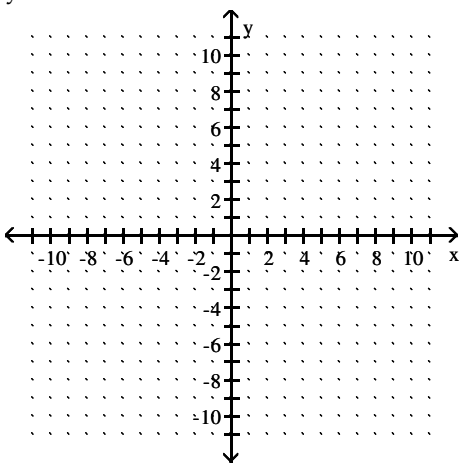


Use the graph of the relation to identify the domain and range.

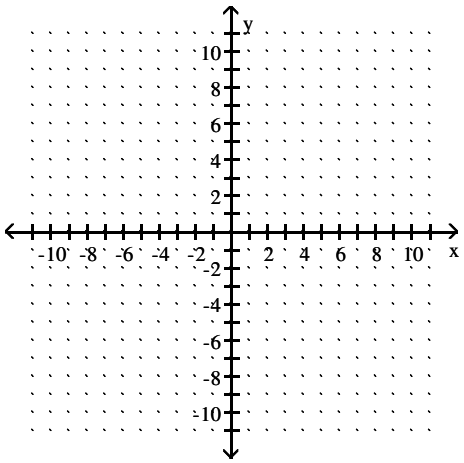
28) $y = -\frac{1}{4}x$



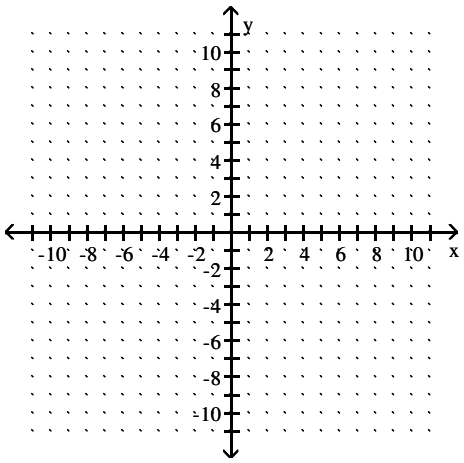
29) $y = x^2 + 1$



30) $y = |x + 9|$



31) $x = y^2 - 5$



Solve.

32) An arrow is fired into the air with an initial velocity of 128 feet per second. The height in feet of the arrow t seconds after it was shot into the air is given by the function $h(t) = -16t^2 + 128t$. Find the domain and the range of the relation.