Determine whether the relation is a function. Explain.

1.

Input, x	9	7	5	3	1
Output, y	1	2	2	3	4

2. $(5, 4), (3, 10), (1, 16), (3, 8), (-1, 6)$

Find the domain and range of the function represented by the graph. Determine whether each graph, table or equation represents a *linear* or *nonlinear* function.
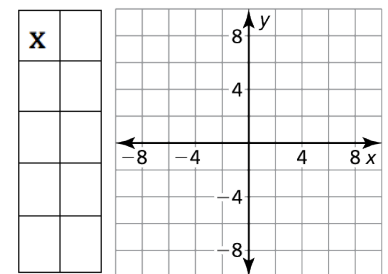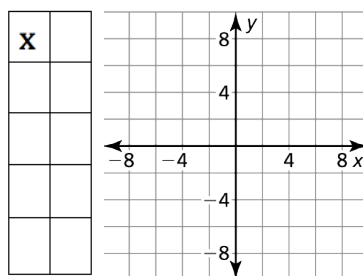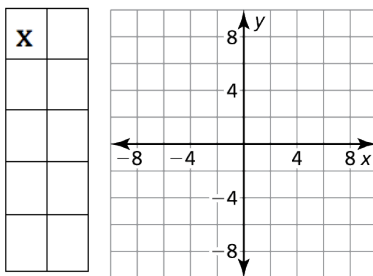
3.

4.

5.
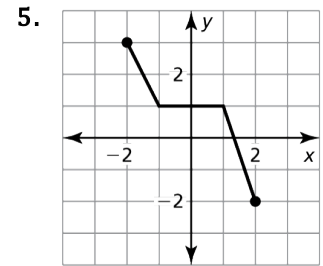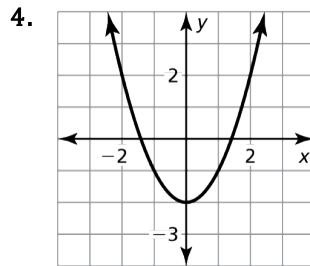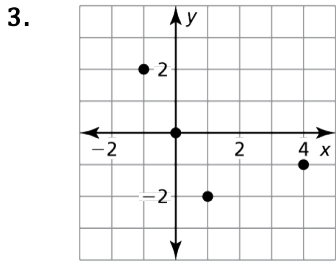
Domain: _____	Domain: _____	Domain: _____
Range: _____	Range: _____	Range: _____
Linear or Non-Linear _____	Linear or Non-Linear _____	Linear or Non-Linear _____

Graph the linear function.

6. $g(x) = x + 7$

7. $p(x) = -2x - 4$

8. $m(x) = \dfrac{3}{4}x$

9. The function $c = 15 + 9h$ represents the amount c (in dollars) it will cost you for a one-time lawn care service of h hours.

(a) Identify the independent and dependent variables. Is the domain discrete or continuous? Explain.

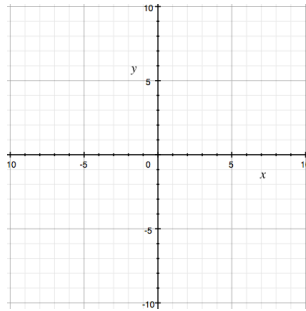**(b)** What is the total charge if the job takes 4 hours to complete?

Find the x- and y- intercepts of the graph of the linear equations.
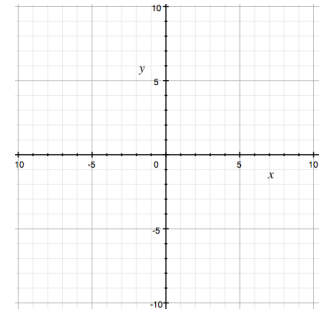
1. $3x + 6y = 24$

2. $-x + 8y = 4$

Use intercepts to graph the linear equation. Label the points corresponding to the intercepts.
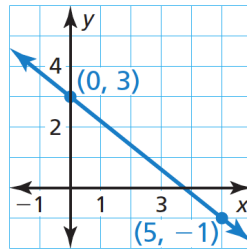
3. $4x + 6y = 12$

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

5. Describe the slope of the line. Then find the slope.

6. The points represented by the table lie on a line. Find the slope of the line.

x	-4	-3	-2	-1
y	2	-5	-12	-19

7. Find the slope and y-intercept of the graph of the linear equation.

$x + y = -6$

8. Find the slope and y-intercept of the graph of the linear equation.

$y = 4x - 7$

5. You are modeling shirts for the math club at your school. Short-sleeved shirts cost $10 each. Long-sleeved shirts cost $12 each. You have a budget of $300 for the shirts. The equation $10x + 12y = 300$ models the total cost, where x is the number of short-sleeved shirts and y is the number of long-sleeved shirts.

a) Graph the equation. Interpret the intercepts.
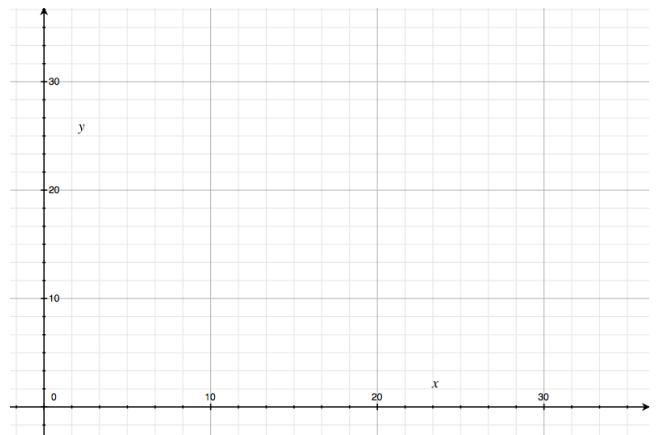
b) Twelve students decide they want short-sleeved shirts.

How many long-sleeved shirts can you order?