1. Solve each of the following equations.
        a) $9(4c - 1) = 2(9c + 3)$ b) $-3(x - 4) + 4x = -30$

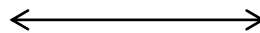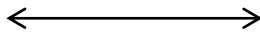2. Solve each equation for the specified variable.
        a) $d = rt$; for r   b) $V = \frac{1}{3}\pi r^2 h$; for h

3. Graph the solution of each inequality on the number lines.
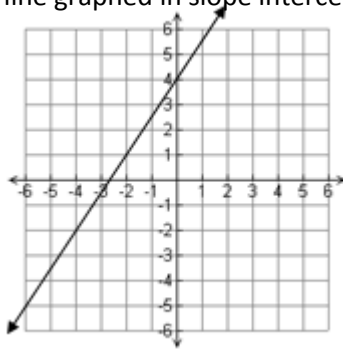   a) $4k + 15 > -2k + 3$ b) $5(x - 4) - 10x \leq 100$
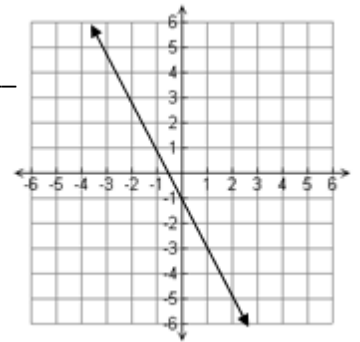

4. State the equation of the line graphed in slope intercept form

a) _____   b) _____

5. State the equation in slope intercept form of the line through the given two points.

        a) $(-2, 5)$ and $(6, -1)$_____   b) $(-2, 8)$ and $(-6, 2)$_____

6. (Multiple Choice: circle the correct answer)
a) What is an equation in standard for that has x-intercept 1 and y-intercept -5?
        A) $x + 5y = -5$ B) $x - 5y = 5$ C) $5x - y = 5$ D) $5x + 5y = 5$

b) What is an equation in standard for that has x-intercept 4 and y-intercept 8?
        A) $4x + 8y = 16$ B) $8x + 4y = 16$ C) $4x - 2y = 16$ D) $4x + 2y = 16$
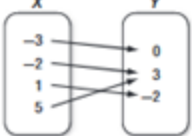
7. (Multiple Choice: circle the correct answer)

a) The equation of a line is $y = \frac{2}{3}x + 5$. What is an equation of the line that is perpendicular to the given line and that passes through the point $(4, 2)$?

A. $y = \frac{2}{3}x - \frac{2}{3}$ B. $y = \frac{3}{2}x - 4$ C. $y = -\frac{3}{2}x + 7$ D. $y = -\frac{3}{2}x + 8$

b) What is an equation of the line that passes through the point $(-2, 3)$ and is parallel to the line whose equation is $y = \frac{3}{2}x - 4$?

A. $y = -\frac{2}{3}x$ B. $y = -\frac{2}{3}x + \frac{5}{3}$ C. $y = \frac{3}{2}x$ D. $y = \frac{3}{2}x + 6$

8. State the domain and range.

a)

Domain: _____

Range: _____

b)

x	-3	-1	2	5	7
y	9	5	4	-5	-7

Domain: _____

Range: _____

9. State whether each sequence is arithmetic.
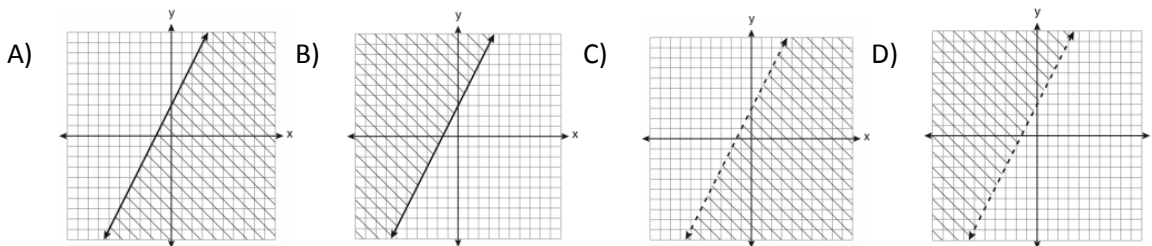
a) $\frac{3}{2}, 4, \frac{13}{2}, 9, \frac{23}{2}$ ...   Circle: yes or no   b) $2, 6, 18, 54$ ...   Circle: yes or no

c) $8, 2, -4, -10,$ ...   Circle: yes or no   d) $1, 4, 9, 16, 25$ ...   Circle: yes or no

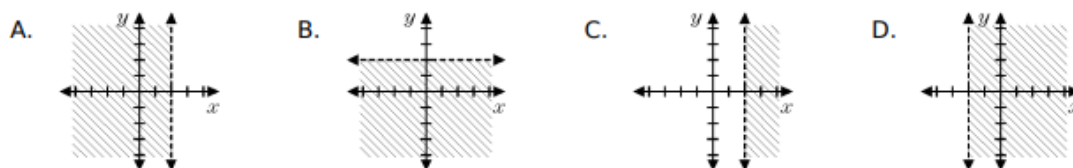10. What is the solution to the system of equations?

$$\begin{cases} y = \frac{3}{4}x + 2 \\ 5x - 4y = -14 \end{cases}$$

11. (Multiple Choice: circle the correct answer)

a) Which graph represents the solution of $> 2x + 3$?

A)   B)   C)   D)

b) Which graph represents the inequality $x < 2$?

A.   B.   C.   D.

12. (Multiple Choice: circle the correct answer)

Which relation is *not* a function?

A. $\{(1, 5), (2, 6), (3, 6), (4, 7)\}$

B. $\{(4, 7), (2, 1), (-3, 6), (3, 4)\}$

C. $\{(-1, 6), (1, 3), (2, 5), (1, 7)\}$

D. $\{(-1, 2), (0, 5), (5, 0), (2, -1)\}$

13. (Multiple Choice: circle the correct answer)
Avery owns a automobile repair shop. She earns $15 per hour for time and labor and an extra amount as an appointment fee. Look at the table. Choose the linear function, f, Avery can use to determine her pay.

Automobile Repair Shop Costs

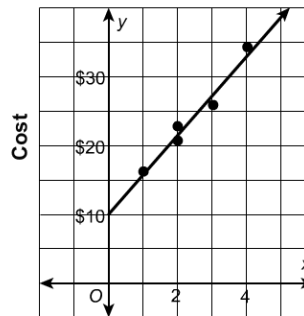| Hours	Labor Cost
1	$25
2	$40
3	$55
4	$70

A. $f(t) = 15t$

B. $f(t) = 15t + 10$

C. $f(t) = 25 + 15t$

D. $f(t) = 25t + 15t$

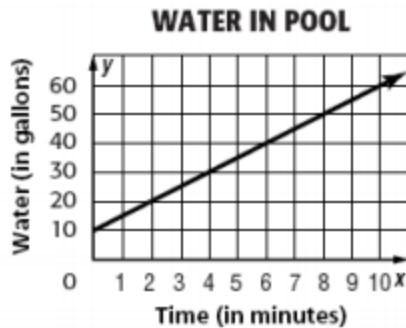14. Write the equation of the trend line in slope-intercept form.

_____

Number of Books Hana Buys

15. (Multiple Choice: circle the correct answer)

Ramon is adding water to his swimming pool. The graph below shows the amount of water in the pool as more water is added.

WATER IN POOL

Time (in minutes)

A. the additional gallons of water added per minute

B. the total time needed to fill the pool

C. the amount of water in the pool before more water was added

D. the total amount of water needed to fill the pool

What does the y-intercept represent?

16. Solve the system by graphing. Write your solution as an ordered pair.

$$\begin{cases} y = -x + 1 \\ y = \frac{1}{3}x - 3 \end{cases}$$

Solution: _____
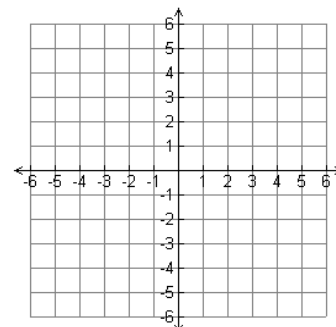
17. Decide if each system has no solution, one solution or infinitely many solutions.

a) $\begin{cases} y = \frac{1}{3}x + 4 \\ x - 3y = 12 \end{cases}$

b) $\begin{cases} y = \frac{1}{2}x - 4 \\ x - 2y = 8 \end{cases}$

18. Find the solution to the system of equations. Write the solution as an ordered pair.

a) $\begin{cases} -4x - 2y = 14 \\ -10x + 7y = -25 \end{cases}$

b) $\begin{cases} 3x - 2y = 2 \\ 5x - 5y = 10 \end{cases}$

19. Sully bought 5 packets of roasted peanuts and 3 packets of beef jerky for $37.80. Joe bought 3 packets of roasted peanuts and 2 packets of beef jerky for $23.87. Find the cost of a packet of roasted peanuts and a packet of beef jerky.

20. Choose the graph that matches the system of inequalities.
$\begin{cases} x + y \le 5 \\ -2x + 3y \ge 6 \end{cases}$

A.

B.

C.

D.