

1) The following equation represents the total cost of a cellular phone plan.

$$c = \$0.12x + \$20$$



Which value represents the **fixed** monthly cost?

Which value represents the **variable** cost or the cost per call?

If this equation were to be graphed, would it be a function and if so what type of function?

What does the **rate of change** represent in this situation?

- 2) A cable television company offers two different pricing plans. The total cost for both plans includes an **installation fee** and a **monthly fee**. The graph below represents the total cost of Plan A and Plan B for the first year



- a) What is the number of months when the total cost is the **same** for both plans?
- b) What is the total cost for Plan B when both plans are the same?
- c) What is the installation charge (initial fee) for Plan A?
- d) What is the monthly fee (rate) for Plan B? Round your answer to the nearest cent.

- 3) Tickets for last year's Faculty Talent Show were \$5.00 if purchased **in advance** and \$7.00 if purchased **at the door**. In total, there were 360 tickets sold amounting to \$1,940 in proceeds.

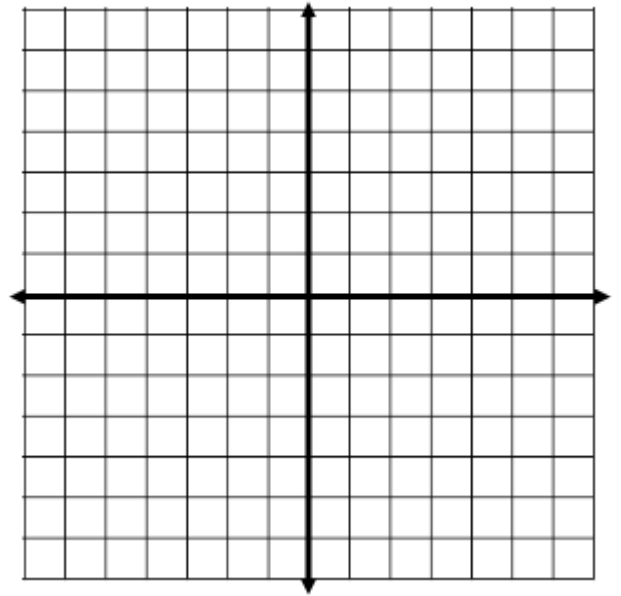
Determine how many tickets were sold **in advance** and how many were sold **at the door**. Only algebraic solution will be accepted. (Follow steps from notes.)

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

- 4) Solve the following linear system graphically AND state the solution. Be sure to label appropriately.

$$y = \frac{3}{2}x - 3$$

$$4y = 6x + 4$$

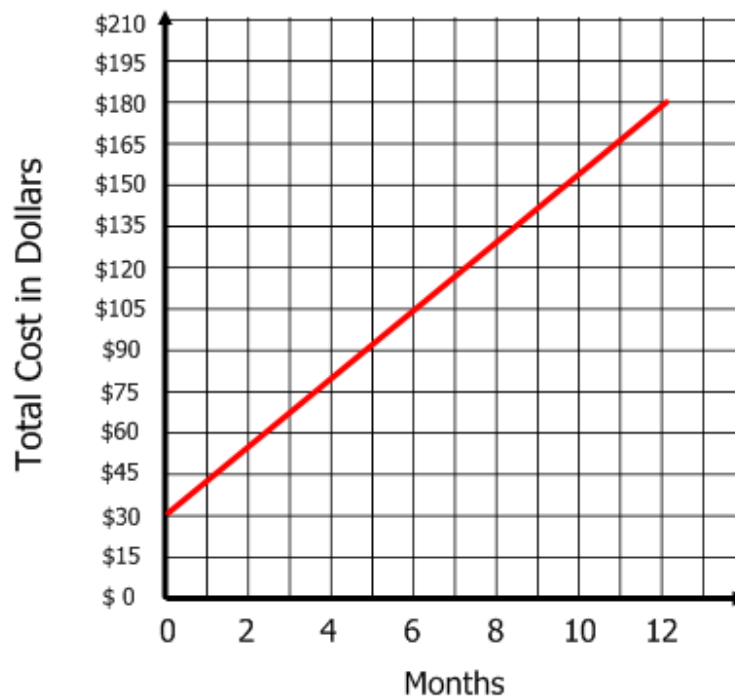


$$m =$$
$$b =$$

$$m =$$
$$b =$$

*Solution:* \_\_\_\_\_

- 5) Two health clubs offer two different pricing plans. Write equations.
- Super Fit charges **\$30** for membership and **\$12.50** for each month.
  - Power-up charges **\$60** for membership and **\$7.50** for each month.



a) Which health club plan is depicted in the graph above?

b) On the same graph above, graph the line to represent the total cost of membership for being in Power-up.

<i>x</i>	<i>y</i>
0	
2	
4	
6	
8	
10	

c) What is the first number of months subscription for which Power-up is ***cheaper*** than Superfit?

d) What is the total cost of Power-up after 18 months?

6) Which equation is the result of adding these two equations:

$$2x + 3y = -5$$

$$7x - 3y = 9$$

a)  $5x = 4$

b)  $9x = 4$

c)  $-5x = -14$

d)  $9x = 14$

7) Find opposites and solve:

$$6x + y = 35$$

$$6x - 2y = 20$$

a)  $(0, 10)$

b)  $(5, 5)$

c) No solution

d)  $(6, 5)$

8) Determine the point of intersection of the two lines:

$$2x - y = 13$$

$$4x + y = 17$$

a)  $(-3, 5)$

b)  $(-1, 6)$

c)  $(5, -3)$

d)  $(6, -1)$