Warm Up

Solve the following for x:

$-4(x + 2) - 3x = 20$

x = -4

$-4x - 8 - 3x = 20$

$+8 \quad +8$

$-7x = 28$

$\frac{-7x}{-7} = \frac{28}{-7}$

$x = -4$

$3(x - 2) - 1(x + 5) = 17$

x = 14

combine like terms

$3x - 6 - x - 5 = 17$

$2x - 11 = 17$

$+11 \quad +11$

$\frac{2x}{2} = \frac{28}{2}$

$x = 14$

How many IXL questions do you think all my math students have answered so far this school year?


85,000

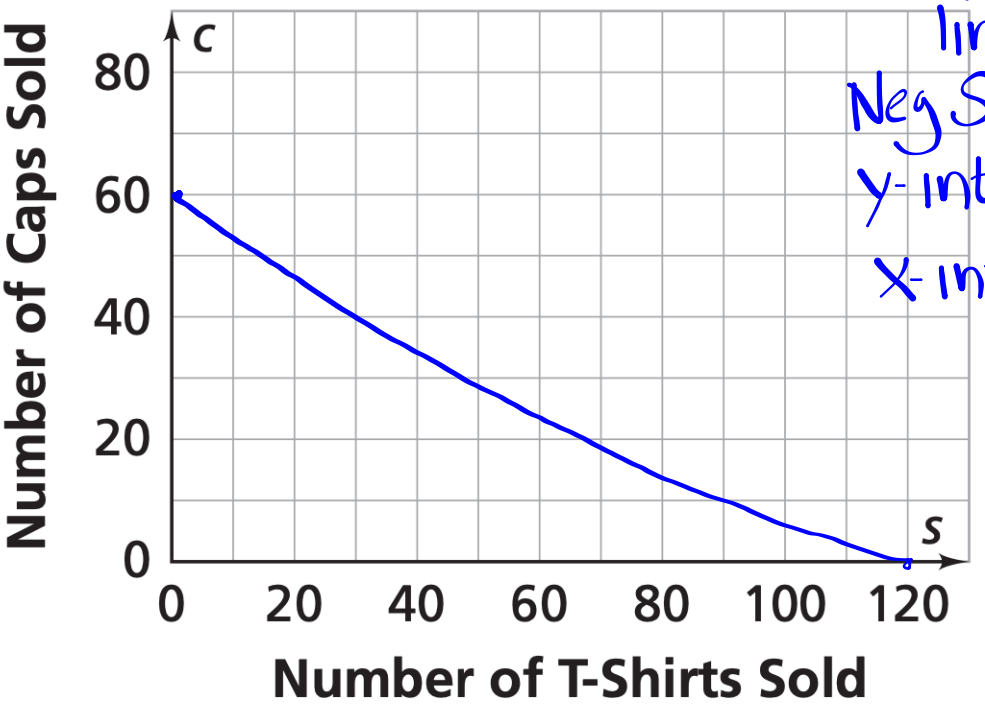
What did your graph look like for Problem 1.1 B?

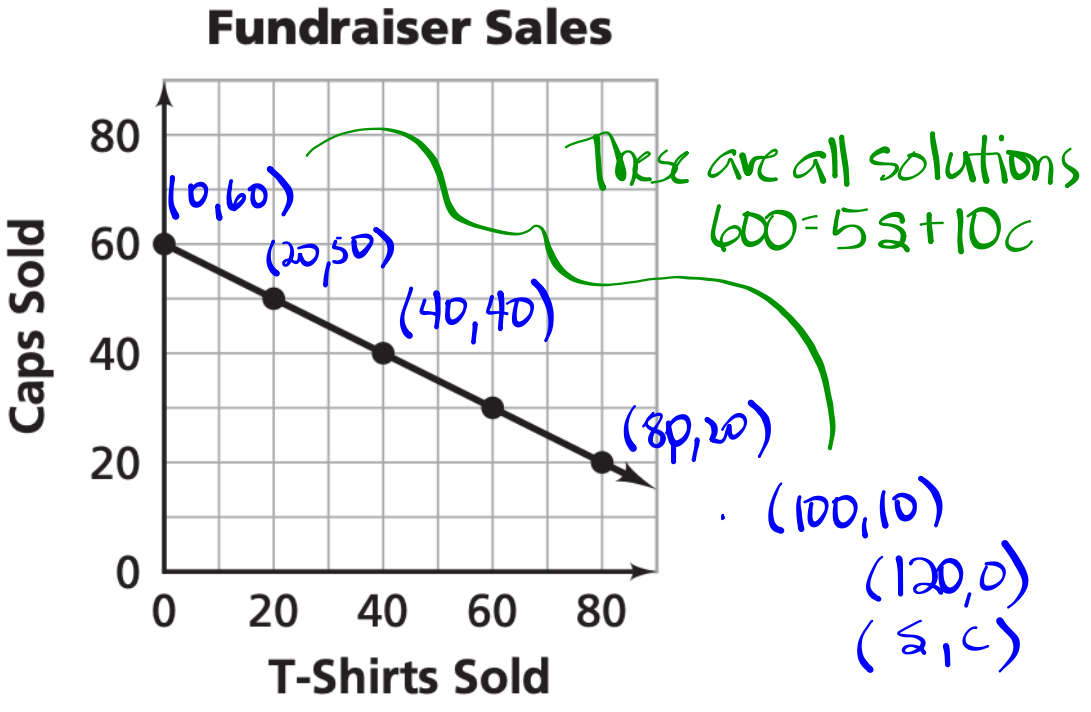
"Mine was surprisingly linear" sc

Neg Slope

y-int: (0, 60)

x-int: (120, 0)

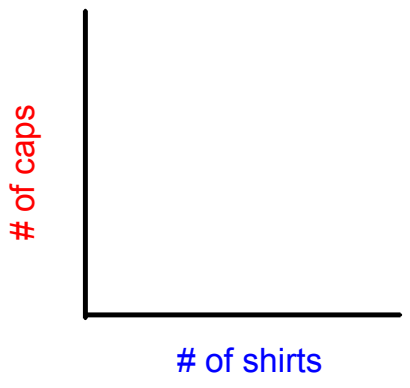


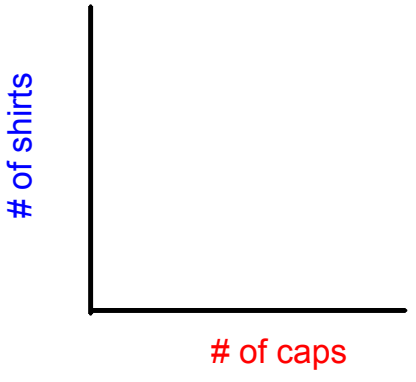


3. Use the graph to find three other ordered pairs that meet the profit goal.

Better to have a larger graph.

4. Suppose the number of T-shirts sold was on the vertical axis and the number of caps sold was on the horizontal axis. Would the solutions change? Explain.





Solutions are written:

(s, c)

(c, s)

Classwork

1.1C 1 and 2, and 1.1D

C For each equation

x + y - intercepts are easy!

- find five solution pairs (x, y), including some with negative values.
- plot the solutions on a coordinate grid and draw the graph showing all possible solutions.

1. $x + y = 10$

2. $x - 2y = -4$

D Make a conjecture about the shape of the graph for any equation in the form $Ax + By = C$, where A, B, and C are fixed numbers. Explain why your conjecture is true.

Our equation for Part 1:

$$5s + 10c = 600$$

$$Ax + By = C$$

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Find three pairs of values (x, y) that satisfy each equation. ~~Plot those points and use the pattern to find two more solution pairs.~~
(Hint: What is y if $x = 0$? What is x if $y = 0$?)

5. $6 = 3x - 2y$

6. $10 = x + 2y$

7. $2x + y = 6$

8. $-3x + 4y = -4$

Homework

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1. For a fundraiser, students sell calendars and posters.

a. What equation shows how the income I for the fundraiser depends on the number of calendars c and the number of posters p that are sold?

b. What is the income if students sell 25 calendars and 18 posters?

c. What is the income if students sell 12 calendars and 15 posters?

d. What is the income if students sell 20 calendars and 12 posters?

e. Find three combinations of calendar sales and poster sales that will give an income of exactly $100.

f. Each answer in part (e) can be written as an ordered pair (c, p). Plot the ordered pairs on a coordinate grid.

g. Use your graph to estimate three other (c, p) pairs that would meet the $100 goal.