

Interpreting the Solution of a Linear Equation

Example 1:

A cell phone company offers a set up fee of \$20 plus \$1.50/minute.

How many minutes can be used for \$60? ***Here are three ways to determine this.

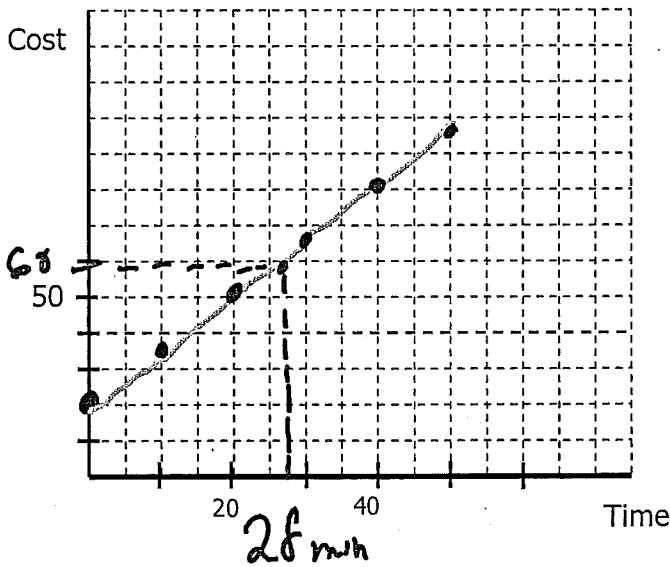
Estimate the solution by using a table:

T (min's)	C (total cost)
0	20
10	35
20	50
30	65
40	80
50	95

28 min
L

• Locate \$60 between \$50 and \$65
• answer ≈ 28 min

Estimate the solution by graphing:



How long can I call for \$60?

answer: ≈ 28 min

By solving the equation:

Total Cost = set up fee + \$1.50 X each minute

$$C = 20 + 1.50m$$

$$\textcircled{1} \quad 60 = 20 + 1.50m$$

$$\quad \quad -20 \quad -20$$

$$\textcircled{2} \quad 40 = \frac{1.50m}{1.50}$$

$$m \approx 26.6 \text{ minutes}$$

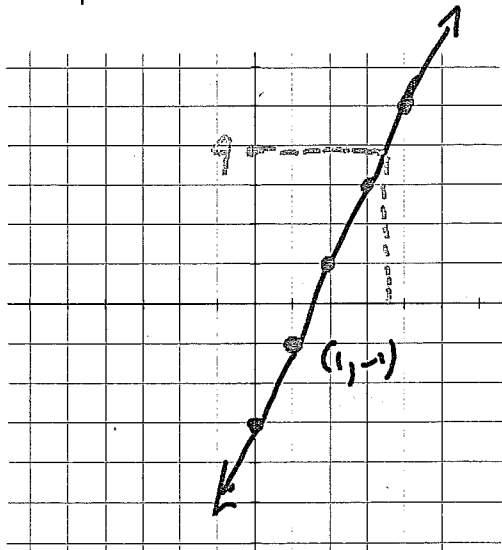
Example 2: Estimate the solution to $\frac{2}{5}x + 1 = 4$, by using a table.

X	Y or $\frac{2}{5}x + 1$
-5	-1
0	1
5	3
7.5	4 ←
10	5

$$0.4x + 1$$

$$x = 7.5$$

Example 3: Estimate the solution to $2x - 3 = 4$ by graphing.



Step 1: $y = 2x - 3$

Step 2: graph $y = 2x - 3$

x	y
1	-1
2	1
3	3
4	5

Step 3: Find 4 on y-axis and Interpolate

$$x = 3.5$$