

Cell phone plans:

Plan A \$50 per month and  
\$0.05 per minute

Plan B \$25 per month and  
\$0.25 per minute

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After how many minutes will  
it cost the same under both plans

$$50 + .05x = 25 + .25x$$

$x = \#$  minutes

\* Get variables on one side  
and #'s on the other

\*\* solve for  $x$ .

$$\begin{array}{r}
 \# \quad + \quad V \\
 \cancel{50} + .05X = 25 + .25X \\
 -50 \qquad \qquad \qquad -30
 \end{array}$$

$$\begin{array}{r}
 V = \# + V \\
 .05X = -25 + \cancel{.25X} \\
 \underline{-.25X} \qquad \qquad \qquad +.25X \\
 \underline{-.2X} = \underline{-25} \\
 \underline{-.2} \qquad \qquad \qquad \underline{-.2}
 \end{array}$$

$$X = 125 \text{ minutes}$$

check your answer. Substitute  
x into the original equation

$$50 + .05(125) = 25 + .25(125)$$

$$56.25 = 56.25$$

Shirley wants to lease her desk:

① Pay \$200 and \$0.40 per day

or

② \$50 down and \$0.80 per day

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How many days is it before the costs are equal under both plans?

$$\begin{array}{r} 200 + .4x = 50 + .8x \\ -50 \quad - .4x \quad -50 \quad - .4x \end{array}$$

$$\frac{150}{.4} = \frac{.4x}{.4}$$

375 days

How many months before the deals are equal?

\$199 down and \$20 a month membership fee or \$40 per month and \$0 down.

$$199 + \cancel{20x} = 0 + 40x - 20x$$

$$\frac{199}{20} = \frac{20x}{20}$$

$$x = 10 \text{ mo}$$



500 minutes are included  
and \$0.25 per minute over  
500 minutes for \$45 per  
month.

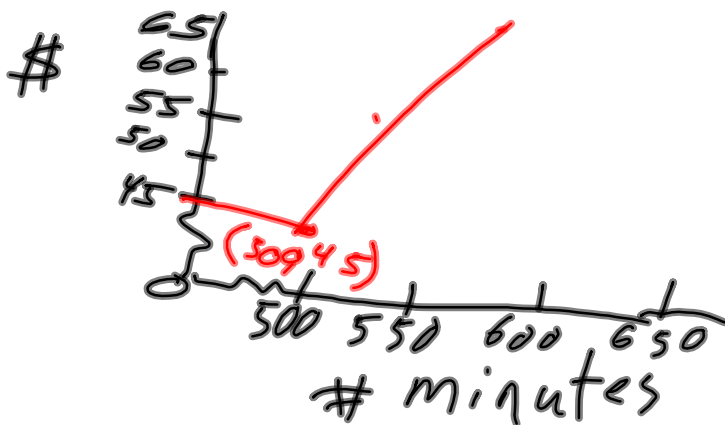
Write an algebraic  
equation for this:

$$f(x) = \$45 + 0.25(x - 500)$$

where  $x$  = number of minutes.

Or you can write it in  
2 parts:

$$f(x) = \begin{cases} \$45 & x \leq 500 \\ \$45 + .25(x - 500) & x > 500 \end{cases}$$



$$5.5 + .7 + .2$$
$$= 6.4$$

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$$5\frac{1}{2} + \frac{7}{10} + \frac{2}{100}$$
$$5\frac{1}{2} + \frac{7}{10} + \frac{2}{10}$$

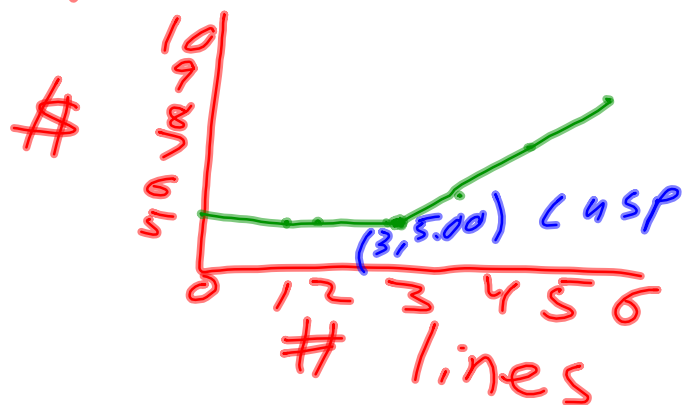
The newspaper charges \$5.00 for an ad up to 3 lines and \$1.50 for each line greater than 3 lines:

Ⓐ Write this algebraically both ways

$$\textcircled{a} \quad f(x) = 5.00 + 1.50(x-3)$$

$$\textcircled{b} \quad f(x) = \begin{cases} 5.00 & x \leq 3 \\ 5.00 + 1.50(x-3) & x > 3 \end{cases}$$

Graph it:



⑥ How much does a 7 line ad cost?

$$5 + 1.5(7-3) = \$11.00$$

⑤ How much does a 3 line ad cost?

$$\$5.00$$

④ How much does a 1 line ad cost?

$$\$5.00$$

