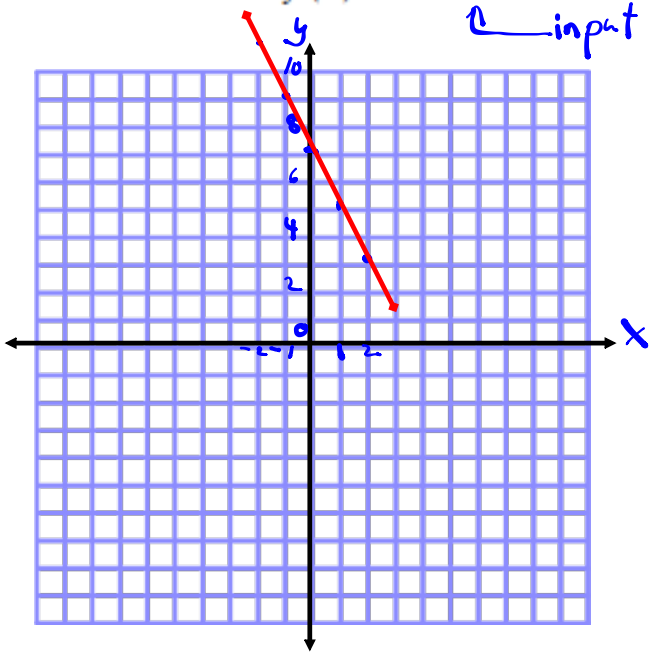
WARM-UP...

Sketch a graph of the linear function $f(x) = -2x + 7$.

x	$f(x)$
−2	11
−1	9
0	7
1	5
2	3

+1, +1, +1, +1 ; −2, −2, −2, −2

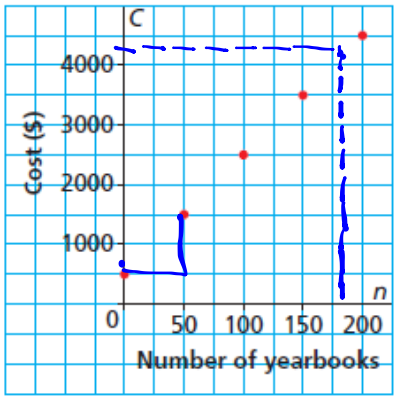
linear



Interpolating Data from a Graph...

EXAMPLE #1:

This graph shows the cost of publishing a school yearbook for Collège Louis-Riel in Winnipeg.



$= 185$

$ROC = \frac{\Delta y}{\Delta x}$

$= \frac{1000}{50}$

$= 20$

ROC, y-int

$C = \_\_x + \_\_$

$C = 20n + 500$

$-500 \quad -500$

$20n + 500 = 4200$

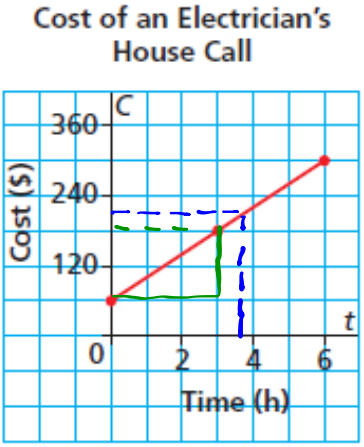
$\frac{20n}{20} = \frac{3700}{20}$

$n = 185$ books

The budget for publishing costs is $4200. What is the maximum number of books that can be printed?

EXAMPLE #2:

This graph shows the total cost for a house call by an electrician for up to 6 h work.



$\doteq 3\frac{3}{4}$ hr

3hrs 45min

$ROC = \frac{\Delta y}{\Delta x}$

$= \frac{120}{1}$

$= 40$

$C = 40t + 60$

$190 = 40t + 60$

$-60 \quad -60$

$40t + 60 = 190$

$\frac{40t}{40} = \frac{130}{40}$

$t = 3.25$ h

$= 3$h 15min

The electrician charges $190 to complete a job. For how many hours did she work?

Determine the rate of change.

Now try sketching each of the following:

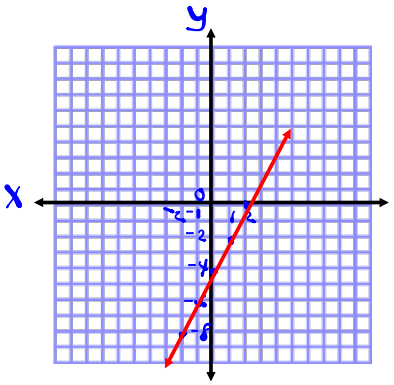
What do you think would be a good first step to get these sketches started?

1) $6x - 3y = 12$

$\frac{-3y}{-3} = \frac{-6x}{-3} + \frac{12}{-3}$

$y = 2x - 4$

x	y
-2	-8
-1	-6
0	-4
1	-2
2	0

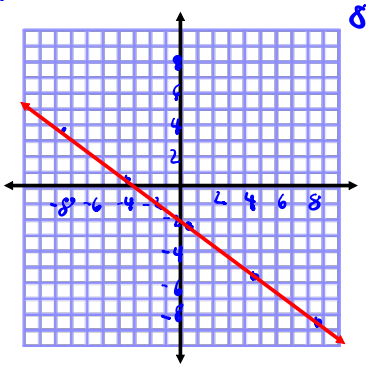


2) $3x + 4y + 8 = 0$

$\frac{4y}{4} = \frac{-3x}{4} - \frac{8}{4}$

$y = \frac{-3x}{4} - 2$

x	y
-8	4
-4	1
0	-2
4	-5
8	-8



PRACTICE PROBLEMS...

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Practice Problems...

Page 319: #4, 6, 7, 8, 10, 11, 14, 15