We'll finish on Wednesday!

Word Problem

KitKat Kondos makes kitty condos. They have $10,000 per week in fixed operating costs and each kitty condo costs $12 to make.

1) Write a function representing the cost of making x kitty condos.

x = # of condos

$C(x) = 10{,}000 + 12x$

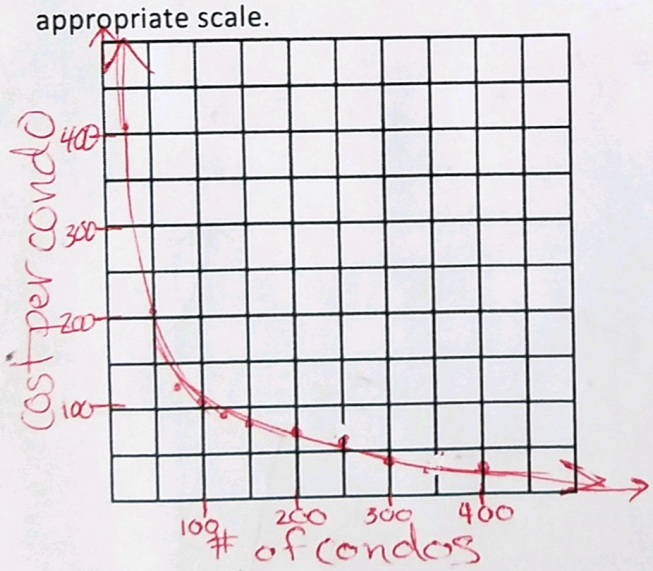
2) Create a table and label the columns: Number of Condos, Total Cost, and Cost per Condo. Use 25, 50, 75, 100, 125, 150, 200, 250, 300, 400, and x for the number of condos.

# of condos	total cost	cost per condo
25	10,300	412
50	10,600	212
75	10,900	145.33
100	11,200	112
125	11,500	92
150	11,800	78.66
200	12,400	62
250	13,000	52
300	13,600	45.33
400	14,800	37
x	$10{,}000+12x$	$\frac{10{,}000+12x}{x}$

3) Write a rational function that represents the cost per condo of x kitty condos.

$A(x) = \frac{10{,}000+12x}{x}$

4) Draw a graph showing the relationship between the number of condos and the cost per condo. Use your table from #2 to determine an appropriate scale.



5) If the cost per condo was $13, how many condos did the company make?

$x(13) = \left(\frac{10{,}000+12x}{x}\right)x$

$13x = 10{,}000 + 12x$

$-12x \quad\quad -12x$

$x = 10{,}000$

must make 10,000 condos for cost to be $13 each