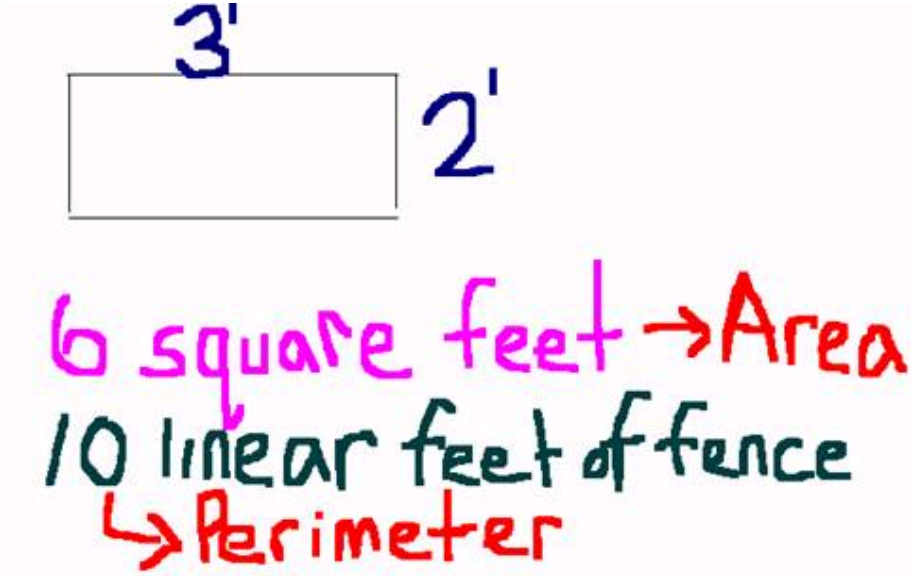
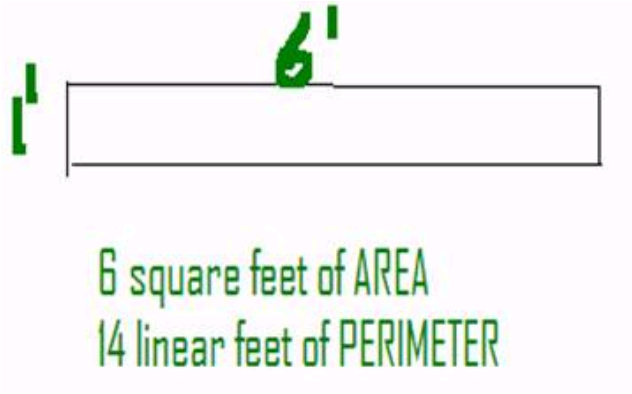
A Mathlete wanted to create a rectangular area for her dog to play. The dog must have exactly 60 square feet of area in which to play. How many different sized rectangles could the Mathlete make for her dog and what would be the dimensions (length and width in feet of each rectangle)? Also, how many linear feet of fencing does the Mathlete need to enclose each rectangular area?

For example, what if the area had to be exactly 6 square feet:





Solution to the Area and Perimeter Question

step 1 -- factor 60 to find all factor pairs; these are the dimensions of your rectangular areas of 60 square feet.

step 2 -- to find the perimeter of each rectangular area, think of the algebraic formula for perimeter of 2L + 2W = perimeter

2 times the length plus 2 times the width of a rectangle = perimeter

FACTOR 60			PERIMETERS	
1	X	60	2*1 + 2*60 =	122
2	X	30	2*2 + 2*30 =	64
4	X	15	2*4 + 2*15 =	38
3	X	20	2*3 + 2*20 =	46
6	X	10	2*6 + 2*10 =	32
12	X	5	2*12 + 2*5 =	34