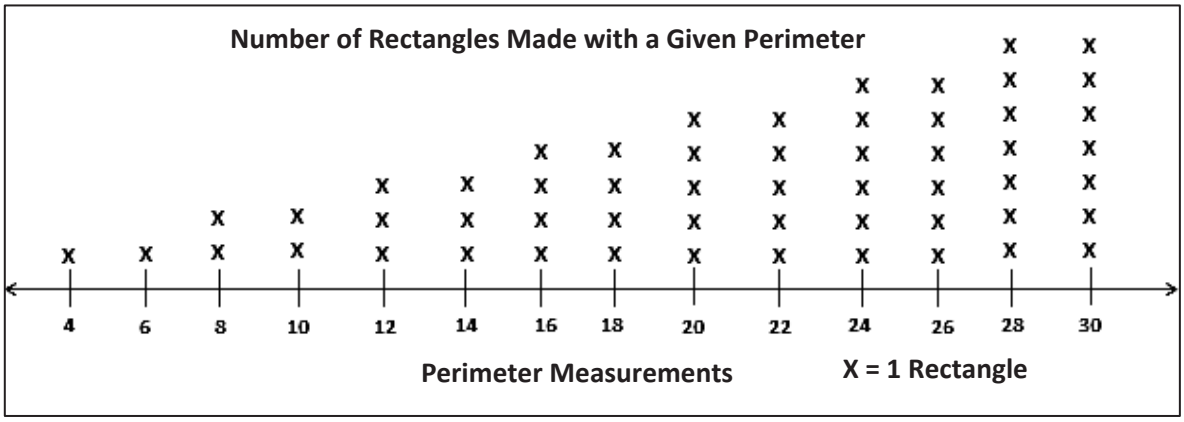
Name _____ Date _____

1. The following line plot shows the number of rectangles a student made using square unit tiles. Use the line plot to answer the questions below.



a. Why are all of the perimeter measurements even? Do all rectangles have even perimeters?

ANSWERS WILL VARY

Rectangle perimeters will always be even because there are two widths and two lengths being added. This makes the perimeter even.

b. Explain the pattern in the line plot. What types of side lengths make this pattern possible?

ANSWERS WILL VARY

All the side lengths could have been whole number lengths, since the perimeters are even.

c. How many X's would you draw for a perimeter of 32? Explain how you know.

ANSWERS WILL VARY

There would be 8 x's for a perimeter of 32. I know this because I made a table of all the possibilities.

L	W	P
1	15	32
2	14	32
3	13	32
4	12	32
5	11	32
6	10	32
7	9	32
8	8	32

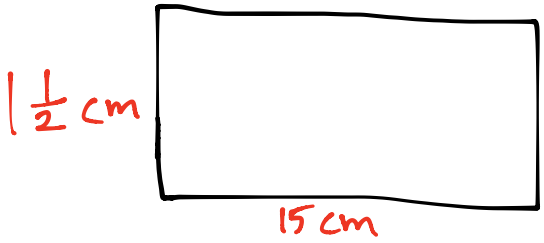
2. Luis uses square inch tiles to build a rectangle with a perimeter of 24 inches. Does knowing this help him find the number of rectangles he can build with an area of 24 square inches? Why or why not?

No, because there is no connection between perimeter and area. Knowing one does not tell you the other.

3. Esperanza makes a rectangle with a piece of string. She says the perimeter of her rectangle is 33 centimeters. Explain how it's possible for her rectangle to have an odd perimeter.

It is possible for a rectangle to have an odd perimeter if the side lengths are fractions.

Example.



Perimeter = $1\frac{1}{2} + 15 + 1\frac{1}{2} + 15$

$= 3 + 30$

$= 33$