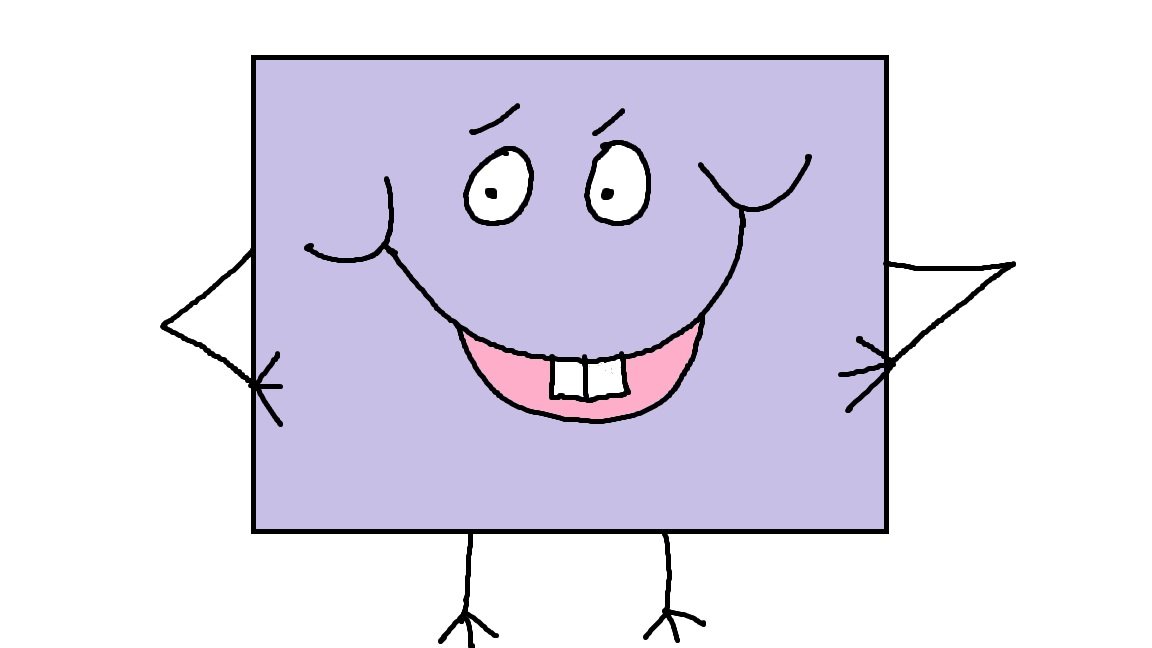
**An AREA Riddle…**



**I am a rectangle.**

**My perimeter is 22 inches.**

**My length and my width are both whole numbers.**

**What might my area be?**

1. How many different possible areas can I have?
2. What are the possible values of my area?

Don’t forget to include the proper units!)

\*\*BONUS\*\*

1. What if my perimeter is doubled…?

What do you think would happen to my possible areas? TRY IT!

* Use the attached problem solving rubric.
* SHOW your SOLUTION STRATEGY!
* Be prepared to share your work with the class ☺
* Be prepared to question the work of your classmates ☺

Possible Solution Path:

If the perimeter is 22 inches, then HALF of the perimeter (or the length plus the width) would be 11 inches. The table below shows all of the possible combinations of values that would equal 11, and the resulting areas (by utilizing the formula A=*lw*):

One side Other Side AREA

1 10 10 in2

2 9 18 in2

3 8 24 in2

4 7 28 in2

5 6 30 in2

So… There are only FIVE possible areas.

The same strategy could be used for the bonus problem. If the perimeter is doubled, it would then be 44 in., and half of the perimeter would be 22. Possible side combinations and the resulting area follow:

One side Other Side AREA

21 1 21 in2

20 2 40 in2

19 3 57 in2

18 4 72 in2

17 5 85 in2

16 6 96 in2

15 7 105 in2

14 8 112 in2

13 9 117 in2

12 10 120 in2

11 11 122 in2

ELEVEN different areas are possible.