



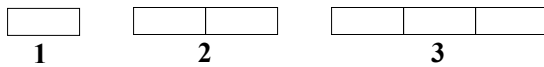
Problem of the Week

Problem B

'Wrecked-Angles'

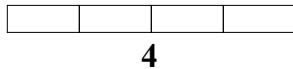
In this problem, you will be carefully counting rectangles. Enter your answers in the given table, where **NSR** is the **N**umber of **S**mall **R**ectangles, and **TNR** is the **T**otal **N**umber of **R**ectangles.

- a) In the first diagram (**Dgm**) below, there is one rectangle. In the second diagram below, there are three rectangles, two smaller ones within one larger one.



How many rectangles are there in the third diagram?

- b) How many rectangles are there in the fourth diagram?



Dgm	NSR	TNR
1	1	1
2	2	3
3		
4		
5		
6		
7		
8		
9		
10		

- c) If the pattern continues, how many rectangles will there be in the fifth diagram?
- d) Describe how the total number of rectangles can be predicted. In particular, how would you determine the number of rectangles in a diagram which had 10 small rectangles in a row?

