

Name _____ Period _____

Number Sequence Problems

Problem A1

input	1	2	3	4	5	6	7	8
output	6	10	14	18	22			

Describe the output numbers: _____

Problem A2

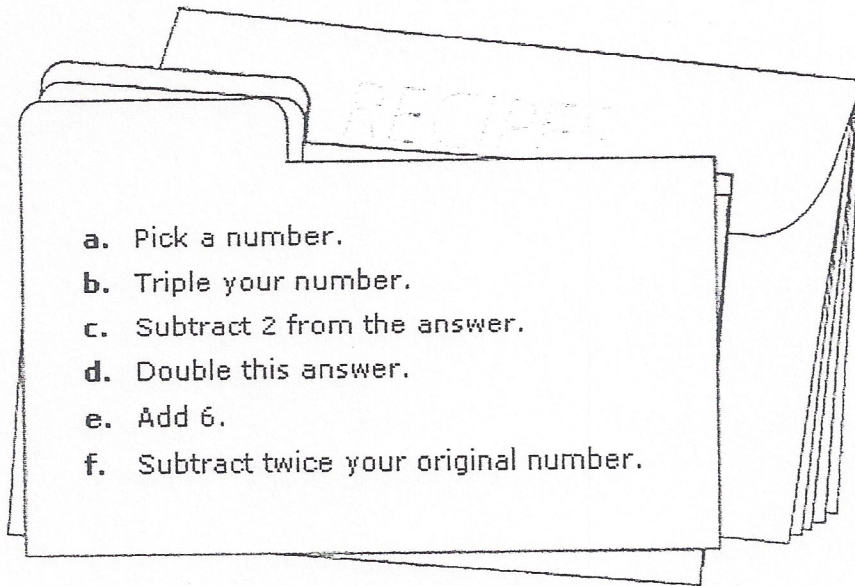
What is the 100th entry in the table above? How do you know?

Problem A3

Would 102 ever be in the output column of this table? What about 1004? Why or why not?

Problem A4

Here is a recipe to perform on a number:



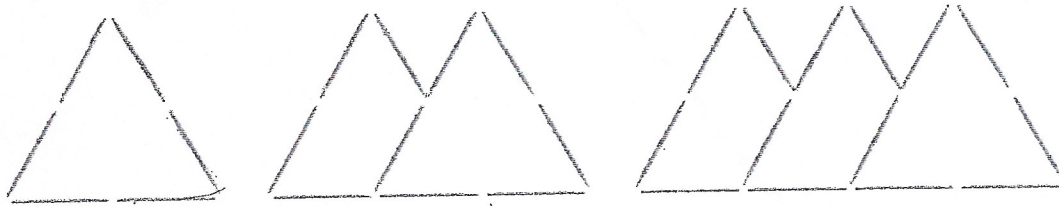
What does this recipe do to the numbers from 1 to 10? Record your answers in a table.

input	1	2	3	4	5	6	7	8	9	10
output										

Can you explain how this is related to the patterns you saw in the table from Problem A1 (below)?

input	1	2	3	4	5	6		
output	6	10	14	18	22	26		

Problem A5



Examine the toothpick pattern given here. Describe the pattern in as many ways as you can: _____

Problem A6

Imagine you keep adding triangles. Complete the following table:

triangles	1	2	3	4	10
toothpicks					

Problem A7

If someone tells you the number of triangles, explain how to tell them the number of toothpicks they would need. How do you know your description will always give the right number of toothpicks?

Problem A8

Use your explanation in problem A6 to complete this table.

triangles	1	2	3	4	10	100			
toothpicks							26	46	102