

Sequence Twisters

Name _____

Name _____

Directions: You and your partner will work together to solve these sequence related problems. You solve the problems on the left and your partner will solve the problems on the right. When you are done, your answers will match - but the answers are NOT in the same order in both columns.

<p>1. Find the sum of the first 8 positive odd integers.</p>	<p>5. Evaluate:</p> $\sum_{k=1}^4 (3k - 1)$
<p>2. Find the sum of 100 terms of the geometric sequence 1, -1, 1, -1, 1, -1, ...</p>	<p>6. Which term of this sequence is 275? 5, 10, 15, ...</p>
<p>3. Which term of this arithmetic sequence is 25? -2, 1, 4, ...</p>	<p>7. Evaluate:</p> $\sum_{n=1}^4 2^n$
<p>4. Find the 9th term of the sequence 3, 7, 11, ...</p>	<p>8. Find the 10th term of the sequence -6, 1, 8, ...</p>

Algebra II

Golf Balls

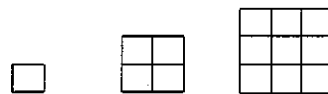
Name _____

Hour _____

Problem 2 – A pyramidal stack

In this problem, you are removing golf balls from a pyramid as shown in this picture from the golf school at the *Crystal Mountain Resort and Spa* in Thompsonville, Michigan.

To see the pattern more clearly, the layers of the pyramids are shown separately here.



- 1) Create a table showing the amount of golf balls contained in each of the first five rows.
- 2) Write a polynomial function to model this situation.
- 3) For the given situation state the domain of the function. Explain.
- 4) Based on your table write a sequence for the first ten rows of the golf balls.
- 5) Write an explicit model for this sequence where n stands for the row number.
- 6) Write a recursive model for this sequence where n stands for the row number.