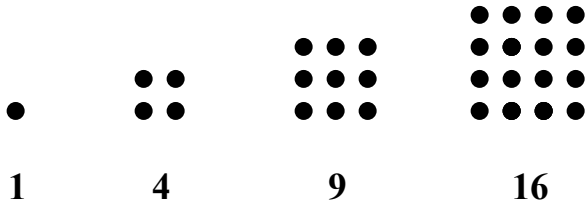


## Advanced Challenge Level 1 Problem #14

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For this problem you will be asked to solve two different problems related to sequences. Make sure you explain how you arrived at your answers.

### Problem #1: Square Numbers

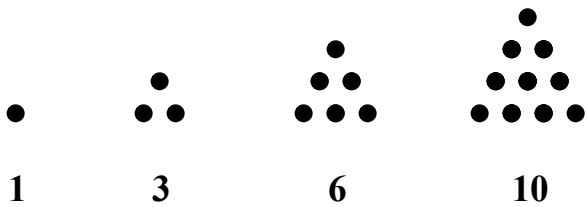


The first four square numbers are listed above. Answer each of the following questions.

- What are the next 4 square numbers? \_\_\_\_\_
- What is the 100<sup>th</sup> square number? \_\_\_\_\_
- Write an algebraic expression for the  $n^{\text{th}}$  square number.

\_\_\_\_\_

### Problem #2: Triangular Numbers



The first four triangular numbers are listed above. Answer each of the following questions.

- What are the next 4 triangular numbers? \_\_\_\_\_
- What is the 100<sup>th</sup> triangular number? \_\_\_\_\_
- Write an algebraic expression for the  $n^{\text{th}}$  triangular number.

\_\_\_\_\_