Pattern Teasers

Below is a pattern made of cubes called “garages.”

1. Continue the pattern for 6 garages. How many cubes were used? 

2. How many cubes would be used to make 10 garages? 

3. Write an expression for the number of cubes for any number of garages. Use $n$ to stand for any number.

Here is a number pattern called “bull’s eye.” Use the pattern for 4 and 5.

4. Start with the 2 in the upper left-hand corner. Draw a straight line across the first 3 numbers, 2, 2, 4. Continue the line across the next three numbers, 2, 4, 6. Now, draw a line down from the 6. What are the next 4 numbers?

5. Draw one continuous line that crosses each number only once to complete the pattern. Why do you think “bull’s eye” is the name for this pattern?