Patterns in Pascal's Triangle

Now that you and your partner have discovered the first 11 rows of Pascal's Triangle, investigate the following patterns.

1) Find the sum of each row in Pascal's Triangle and record them in the following table.

Row	0	1	2	3	4	5	6	7	8	9	10	11
Sum	1	2	4									

a) There is a pattern that exists in taking the sum of each row of Pascal's Triangle. Describe this pattern in words.

b) Describe the pattern that you found in part (a) using a mathematical expression.

2) With a colored pencil, lightly shade all of the odd numbers in Pascal's Triangle. Describe any pattern that you notice.

3) Triangular numbers are numbers that can be drawn with dots as a triangle.

For example, 3 is a triangular number because it can be drawn like this:





Determine the next two triangular numbers and draw them (if you need more space use the back of this paper).

4) Find (at least) one more pattern in Pascal's Triangle with your partner and be prepared to share your findings with the class.

