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### Investigation 3: Pascal's Triangle



1. Complete the next two rows of Pascal's Triangle in figure 1.

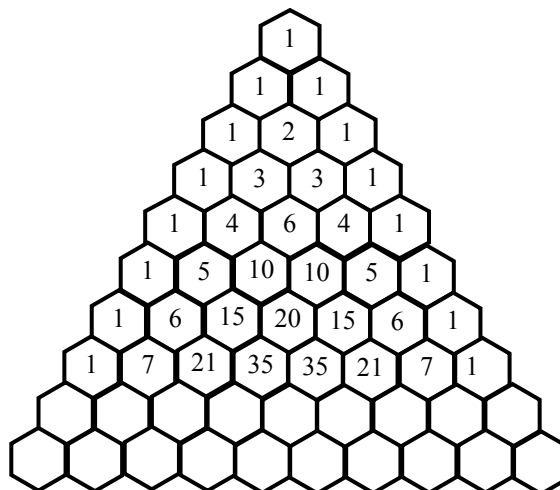


Figure 1

2. With the aid of figure 2, add up the numbers in Rows 0 – 5

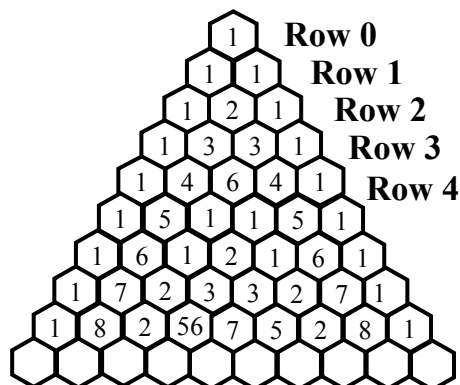


Figure 2

- Determine the sum of the numbers in Row 22.
- Write a formula for the sum of the numbers in Row  $x$ .
- By alternately adding and subtracting terms within each row, we get another pattern. For example, in Row 4 we have  $+1 - 4 + 6 - 4 + 1 = 0$ .

Determine the answer to this calculation for Row 47.