

Pascal's Triangle Answers

The triangular pattern shown below is the first eleven rows (with some of the numbers missing) of a pattern called *Pascal's triangle*.

The numbers from Pascal's triangle are used in several areas of mathematics including algebra and probability.

Use the numbers given to find the pattern and complete the triangle by filling in all the missing numbers.

1. Find out more information about Pascal, the mathematician after whom this triangle was named.
2. Find two patterns in the numbers along the diagonals of the triangle and give the next two numbers in each of these patterns.
3. Find the sum of the numbers in each row of the triangle. Describe the pattern that occurs in the sum of the rows.
4. What would be the sum of the numbers in the next row of the triangle?
5. What would be the numbers in the next row?
6. Find the sum of these numbers.

3. 1, 2, 4, 8, 16, 32, 64,
4. 2048
5. 1, 11, 55, 165, 330, 462, 462, 330, 165, 55, 11, 1

