

Other patterns

				1				
			1		1			
		1		2		1		
	1		3		3		1	
	1	4		6		4		1
	1	5	10		10	5		1
1		6	15	20	15	6		1

What numbers appear in the first diagonal (on the left of the triangle)? _____

What numbers appear in the second diagonal? _____

Can you find a formula for the second term in the n th row of the triangle?

Can you find a formula for the r th number in the n th row of Pascal's Triangle?

The binomial coefficient, nC_r , shows how many ways you can choose r items from a set of n items.

$${}^nC_r = \frac{n(n-1)(n-2) \dots (n-r+1)}{r(r-1)(r-2) \dots 3 \times 2 \times 1}$$

Where can you find the binomial coefficient in Pascal's triangle?

Show that ${}^nC_r + {}^nC_{r-1} = {}^{n+1}C_r$.
