

1.9 The binomial theorem

Checklist

What you should know

By the end of this subtopic you should be able to:

- write out terms in Pascal's triangle by extending the pattern from the first few rows
- use Pascal's triangle to evaluate $\binom{n}{r}$ and to find coefficients in a binomial expansion
- evaluate and simplify expressions with factorial notation
- evaluate $\binom{n}{r}$ by using $\binom{n}{r} = \frac{n!}{r!(n-r)!}$
- use the binomial theorem to find terms in the expansion of $(a + b)^n$.

