

## Section 1: The method of differences

### Crucial points

1. **Make sure you have the correct left-over terms when using the method of differences**

After most of the terms cancel out, the left over terms may not necessarily be the first and the last, and there may be more than two. You need to write out the first few terms and the last few terms in full to spot the pattern.

2. **Check your answer by substituting for  $n$**

It is a good idea to substitute  $n = 1$ , and perhaps  $n = 2$  as well, to check your result.