

# Using Excel as a Calculator

Set up your spreadsheet like this:

	A	B
1	Question	Answer
2		1
3		2
4		3
5		4
6		5
7		6
8		7
9		8
10		9
11		



Use Excel to perform each calculation. Make a formula to calculate the answer to each question.

1. How many possible results are there from flipping a coin 5 times? ( $2^5$ )
2. How many rearrangements are there of the word KETCHUP? ( $7!$ )
3. An investment club with 5 members wants to select a president, vice-president and treasurer. How many ways can this be done? ( ${}_5P_3$ )
4. Twelve different portraits are in a family's collection. In how many ways can 5 of them be hung on the wall if Grandma's picture must be in the middle? (remove Grandma from n and r:  ${}_{11}P_4$ )
5. You have 8 books in a series. How many ways can they be arranged incorrectly? (Total – Correct:  $8! - 1$ )
6. In how many ways can the letters of the word MINIMUM be arranged? (Total letters, divide out repeats:  $\frac{7!}{3!2!}$ )
7. The six members of the yearbook staff sit around the circular table in their office. How many different seating arrangements are there of this group of people? (fix one, remove from n:  $5!$ )
8. A gardener bought five geraniums, three rose bushes and four evergreen bushes from a nursery that had 14 geraniums, 12 rose bushes and only five evergreen bushes. How many choices did the gardener have? (Choose geraniums, roses, evergreens:

$$\binom{14}{5} \times \binom{12}{3} \times \binom{5}{4}$$

9. Twenty people are to travel in a bus from the airport to the hotel at the resort. The bus can carry 12 passengers outside and eight inside. If four passengers refuse to travel outside and five will not travel inside, in how many ways can the passengers be seated happily? (Inside picky, outside picky, leftover outside, leftover inside:

$$\binom{4}{4} \times \binom{5}{5} \times \binom{11}{7} \times \binom{4}{4}$$