

1. This is question 7 on page 16 of the book.

- (a) How many ways can we seat 3 boys and 3 girls in a row?
- (b) How many ways can we seat 3 boys and 3 girls in a row if the boys and girls are each to sit together?
- (c) How many ways can we seat 3 boys and 3 girls in a row if only the boys must sit together?
- (d) How many ways can we seat 3 boys and 3 girls in a row if no two people of the same sex are allowed to sit together?

ANSWERS

1. (a) $6!$
- (b) $2 \times 3! \times 3!$ (the 2 comes from which gender is left-most)
- (c) $4 \times 3! \times 3!$ (the 4 comes from the position of the left-most boy)
- (d) $2 \times 3! \times 3!$ (the two comes from which gender is left-most).