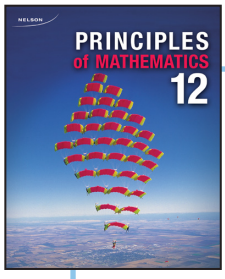


- If you have any difficulty with these solutions, please contact your teacher before continuing.

Page 157, *Your Turn*

There are 9 letters and A, S, and O all occur twice.

$$\text{Number of ways to arrange the letters} = \frac{9!}{2!2!2!} = 45\ 360$$ ✓

There is only 1 correct way to spell SASKATOON.

$$P(\text{winning a car}) = \frac{1}{45\ 360} = 2.2 \times 10^{-5}$$ ✓

Sally's probability of winning a car increases if the contest word is SASKATOON instead of SASKATCHEWAN. ✓

Page 156, *Your Turn*

a. If all 5 of Blake's children are girls, there must be 4 girls at home.

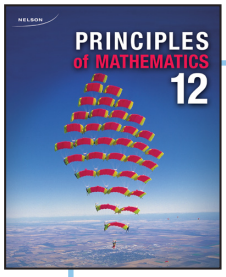
$$P(\text{4 girls at home}) = \frac{\text{number of ways to have 4 girls at home}}{\text{number of ways to have 4 kids at home}}$$ ✓

$$= \frac{1}{2 \times 2 \times 2 \times 2} = \frac{1}{16}$$ ✓

The probability of having all girls is $\frac{1}{16}$ or 6.25%.

b. $P(\text{at least 1 boy}) = 1 - P(\text{all girls})$ ✓

$$= 1 - \frac{1}{16} = \frac{15}{16}$$ ✓



- If you have any difficulty with these solutions, please contact your teacher before continuing.

Page 158, *Your Turn*

Yes. It does not matter where the other 12 people sit because they are part of the calculation for favourable outcomes and total outcomes. The number of ways that these 12 people can be seated is 12!. Because $\frac{12!}{12!} = 1$, you do not need to consider them in the calculations. ✓

Page 154, *Your Turn*

Using permutations: $\frac{{}_4P_3}{{}_{11}P_3} = \frac{24}{990} = 0.0\overline{24}$ ✓

Using combinations: $\frac{{}_4C_3}{{}_{11}C_3} = \frac{4}{165} = 0.0\overline{24}$ ✓