Week 2
Term 1
2024

HAWKER COLLEGE
Engage | Inspire | Achieve
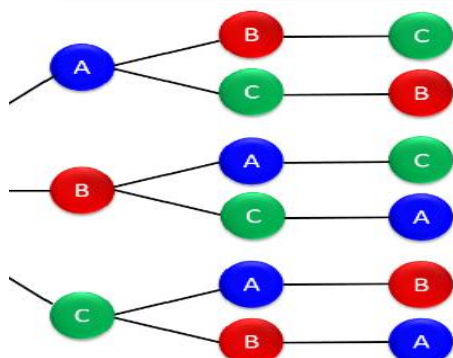
Learning Brief

MM1

Goals

By the end of this week, you will:

- Understand the addition and multiplication principles for counting
- Compute number of possible arrangements using permutation
- Develop an understanding of factorial notation and apply it to calculating permutations

Theoretical Components

Knowledge Checklist:
- Counting principles – addition and multiplication
- Permutations
- Factorials

Online Links
- http://www.coolmath.com/algebra/20-combinatorics/01-counting-principals-01
- https://www.mathsisfun.com/data/basic-counting-principle.html
- https://www.algebra-class.com/fundamental-counting-principle.html

Diagnostic Test – Monday lesson

Practical Components

Resources:
Make notes on the following chapters and websites:
- 12A The addition and multiplication principles
- 12B Permutations
- 12C Factorials

Do the following questions:
Organise your solutions neatly in your exercise book.
Chapter 12 of Maths Quest 11 Mathematical Methods (pdf – Google Classroom)
- 12A: 1-6, 10-15
- 12B: 1, 3, 5, 7, 9, 10, 18, 19
- 12C: 5-10

Investigation

See next page

Other

Make sure you have joined the Google Classroom. If you have not, see your teacher.

Fun fact: Take a standard deck of 52 playing cards and give them a thorough shuffle. It is almost a mathematical guarantee that the order of the cards you're left with has never been seen before in the history of the universe.

Week 2 Investigation

1. In how many ways can four people sit in a row of five chairs?

2. In the A.C.T. a standard car license plate consists of:
   - 3 letters (first letter is 'Y')
   - followed by 2 digits
   - followed by a letter

   How many different standard license plates are possible in the A.C.T.? Show working.
   (Note: repetitions of digits and letters is allowed).