HAWKER COLLEGE
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Learning Brief

SMM1

Goals

This brief we are going to:

- Further develop mathematical models with quadratic functions
- Use algebraic methods and graphing software to identify the key features of linear and quadratic functions
- Develop quadratic skills (factorising, equations reducible to quadratics)

Theoretical Components

You will need to have a good working knowledge of domain and range, functions and relations for the test and upcoming assignment.

Quadratics:
You need to know about dilation, vertical translation, horizontal translation, vertex, axis of symmetry, reflection, roots, and intercepts

Forms: Base form $y = x^2$

General form $y = ax^2 + bx + c$

Vertex (h,k) form $y = a(x - h)^2 + k$

Fully factorised form $y = (ax - m)(fx - n)$

Make notes on the following chapters and websites:

Maths Quest 11 Mathematical Method
- 2B Expanding quadratic expressions
- 2C Factorising quadratic expressions
- 2D Factorising by completing the square
- 2E Solving quadratic equations - Null Factor Law

Quadratics:
- https://www.mathsisfun.com/algebra/quadratic-equation-real-world.html

Practical Components

Do the following questions:
Organise your solutions neatly in your exercise book.

Chapter 2 of Maths Quest 11 Mathematical Methods (pdf – Google Classroom)

- Ex 2B: Q1(a, c, e) Q2 (a, c, g, i) Q3(a, g)

- Ex 2C: Q3(a, g) Q5(a, c) Q7, Q9

- 2D: Q1i, Q2i, Q7

- 2E: Q2a, d, g, Q3a, d, j, Q8, Q10, Q12

Investigation

The "investigation" for the Week 9/10 is to prepare a summary sheet in preparation for the test in Week 10 - Two–sided handwritten A4 page.

Other

Write your name on your summary sheet. It will be collected at the end of the test.

TEST – Session 6 Wednesday 3rd April (1:45pm to 3:45pm)