

# Higher Maths

## Why Mathematics?

This course enables you to build on your previous mathematical experience in the areas of algebra, geometry and trigonometry and introduces you to elementary calculus. The study of Mathematics provides you with many valuable skills. It is often very important when seeking employment or entry to further or higher education and is an important part of your general education.

$$\begin{aligned}3x^{2/3} + 5x^{1/3} - 2 &= 0 \\(3x^{1/3} - 1)(x^{1/3} + 2) &= 0 \\3x^{1/3} - 1 = 0 \text{ or } x^{1/3} + 2 &= 0 \\x^{1/3} = \frac{1}{3} \quad x^{1/3} = -2 \\ \sqrt[3]{x} = \frac{1}{3} \quad \sqrt[3]{x} = -2 \\x = \left(\frac{1}{3}\right)^3 \quad x = (-2)^3 \\x = \frac{1}{27} \checkmark \quad x = -8 \checkmark\end{aligned}$$

## What does the course involve?

The course is made up of three units.

### Mathematics: Expressions and Functions (Higher)

The general aim of this Unit is to develop knowledge and skills that involve the manipulation of expressions, the use of vectors and the study of mathematical functions. The Outcomes cover aspects of algebra, geometry and trigonometry, and also skills in mathematical reasoning and modelling.

### Mathematics: Relationships and Calculus (Higher)

The general aim of this Unit is to develop knowledge and skills that involve solving equations and to introduce both differential calculus and integral calculus. The Outcomes cover aspects of algebra, trigonometry, calculus, and also skills in mathematical reasoning and modelling.

### Mathematics: Applications (Higher)

The general aim of this Unit is to develop knowledge and skills that involve geometric applications, applications of sequences and applications of calculus. The Outcomes cover aspects of algebra, calculus, and also skills in mathematical reasoning and modelling.

## How is your work assessed?

This course is assessed by a combination of internal assessment by the teacher and an external examination set and marked by the SQA

## What prior qualifications do I need, if any, for entry to this course?

- 'A' or 'B' pass at National 5 in S4 or S5
- or entry at discretion of the Principal Teacher Maths