

Numerical methods with a CAS calculator

Year 11
Mathematical Methods

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Learning Objectives

By the end of the lesson I hope that you understand and can apply the following to a range of questions from the Unit 1 and 2 Mathematical Methods course.

- Be able to use the CAS to solve questions
- Apply the understanding to a range of problems (including application problems)



Recap of past learning

This video will build on the work we have covered in previous sections and shows that, at times, there will not be a nice “pencil and paper” method you can use to solve a problem.

Many times, you have to use a different tool set or, as with this video, your CAS!



Example 1

Solve the equation $\frac{x}{2} = \sin x$ giving your answer correct to two decimal places.

$\therefore x = -1.90$

$x = 0$

$x = 1.90$



Example 2

Fit a sine curve to the points (1, 2.08), (2, 2.3), (3, 0.49), (4, -1.77) and (6, -0.96).

$$a \cdot \sin(bx + c) + d$$

$$= 2.5 \cdot \sin(0.98x + 0.003) - 0.001$$



Learning Objectives: Revisited

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