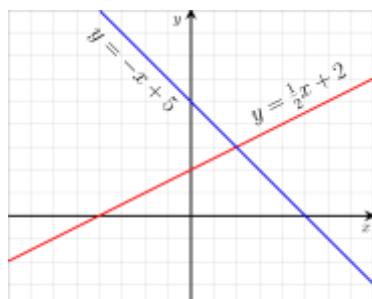


## Goals



Topic: Functions and Relations  
Unit Goal

- understand the concepts of relations and functions
- understand the inter-connectivity of the written, graphical and algebraic forms of relations
- develop mathematical models with various functions
- use algebraic methods and graphing software to identify the key features of linear and quadratic functions.

This week's focus:

- linear functions and modelling

## Theoretical Components

### STEP 1

You will need to use [Mathspace.co](#) for the following LESSONS (make Notes on the lesson information before you attempt the questions):

1. Finding the Equation of a line
2. Distance between 2 points
3. Midpoint of a line
4. Sketching Equations
5. Linear Modelling

Make your notes from the lessons in your exercise book.

If you need more practice on gradients, sketching linear functions and finding the formulae for a straight line see links below:

<http://zonalandeducation.com/mmts/functionInstitute/linearFunctions/linearFunctions.html>

<http://www.mathsisfun.com/algebra/linear-equations.html>

<http://www.mathsisfun.com/gradient.html>

[http://www.mathsisfun.com/data/straight\\_line\\_graph.html](http://www.mathsisfun.com/data/straight_line_graph.html)

<http://www.mathsisfun.com/algebra/line-equation-point-slope.html>

You need to:

- Know about gradients
- Describe transformations of lines using language of dilation, change of gradient and vertical translation.
- Be able to sketch linear functions quickly, easily and with accuracy.
- Find the equation of a line given certain information.
- Use modelling techniques - applications using linear functions

## Practical Components

### STEP 2

Time to start the brain working...

Try this quiz:

[http://www.mathsisfun.com/quiz/linear\\_equation\\_test.html](http://www.mathsisfun.com/quiz/linear_equation_test.html)

Complete all the tasks on [www.mathspace.co](http://www.mathspace.co) for this week

## Investigation

### STEP 3

There will be no new investigation for this week

Show me week 5's investigation, if you have not already done so, and complete the above exercises and the [www.mathspace.co](http://www.mathspace.co) tasks set for last week and this week.

You will need a CAS calculator. They are available from the front office for purchase – see Toby or Jacqueline if you have any issues with this.

## QFO

Quiz/Forum/Other

☺ No Monday lesson (Canberra public holiday), so come to the maths area and work for 2 hours this week. Successful completion of the green task (Linear Equations: finding the equation of the line) on [www.mathspace.co](http://www.mathspace.co) will count towards your one other hour for this week.

**Remember to scan in when you come to Maths and when you leave.**