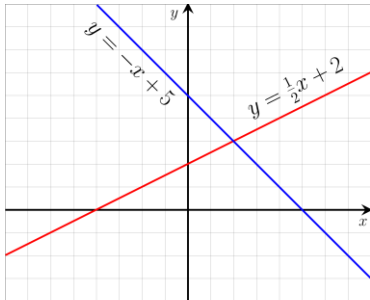


Goals



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 functions.

This week's focus:

- linear functions and modelling

Theoretical Components

Resources: *Maths Quest 11 Mathematical Methods* Chapters 1 (pdf Google Classrooms)

<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/algebra/line-equation-point-slope.html>

You need to:

- Know about gradients (1C)
- 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. (1D)
- Find the equation of a line given certain information. (throughout the chapter)
- Use modelling techniques -applications using linear functions (1H)

Practical Components

For this week

- Linear Modelling

Maths Quest 11 Mathematical Methods

- Exercise 1C: 1a, 2c, 3e, 7, 8
-
- Exercise 1D: 8a,e , 9c,f , 10a, 14, 15
-
- Exercise 1F: 5a, b , 8, 10, 12-15
-
- Exercise 1H: all even questions.

Investigation

Your investigation this week is to complete a summary sheet in preparation for the test in Week 8 - Two-sided handwritten A4 page.

This will be collected at the end of the test so please put your name on the sheet (☺)

QFO

Quiz/Forum/Other

Revision quiz on mathspace. Make sure you complete the quiz before the exam for your own benefit.

Please see Aaron **ASAP** if you have any concerns.

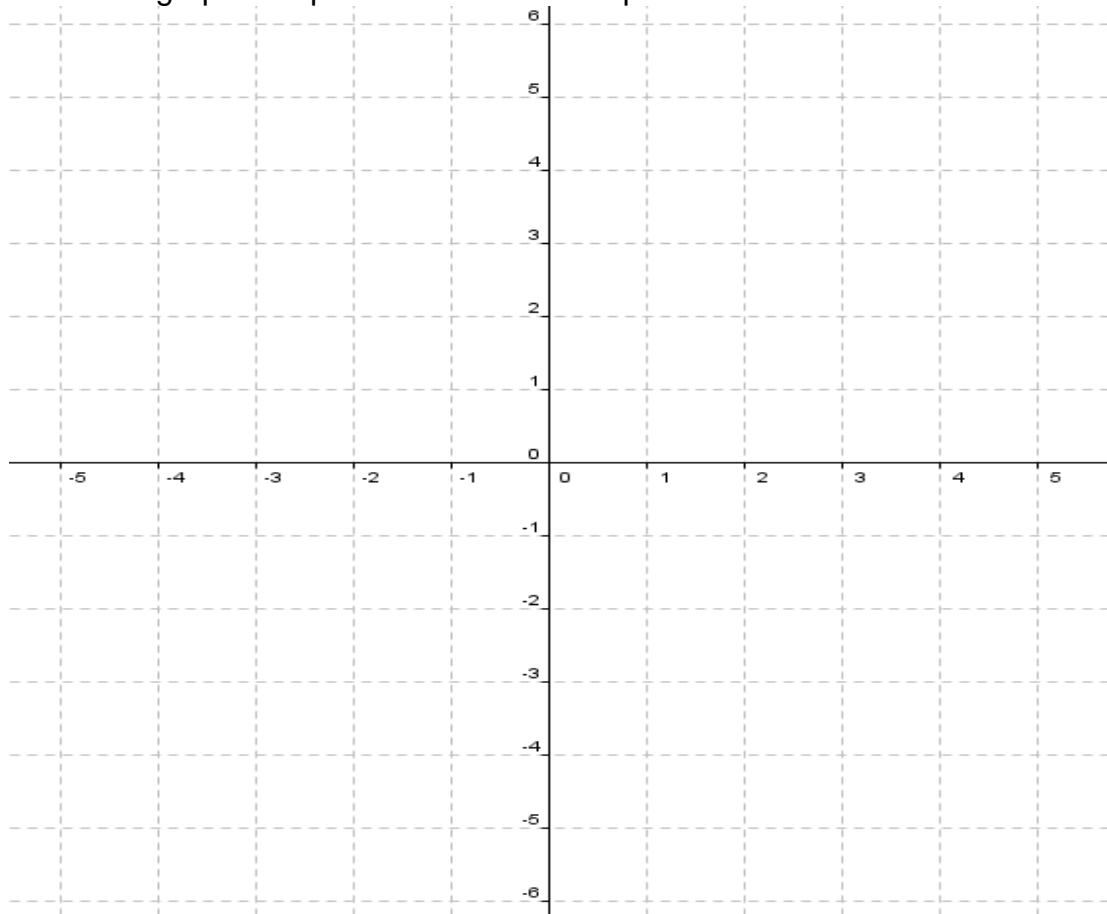


Investigation

a. Complete the following table:

-x	$y=2x+1$	$y=x+3$
-3		
-2		
-1		
0		
1		
2		
3		

b. Draw a graph to represent each of the equations in the above table.





c. Where do the lines representing $y = 2x + 1$ and $y = x + 3$ meet?

d. Hence, what are the co-ordinates of the point which satisfies both $y = 2x + 1$ and $y = x + 3$?

e. Hence, solve $y = 2x + 1$ and $y = x + 3$.

f. Write a paragraph to determine the definition of simultaneous equation and how to solve it. Make your own pair of equations and solve them to find co-ordinates of the point they meet.