**Mathematical Methods Coordinate Geometry Tutorial Sheet 9**

1. 2x – 5y = 10 represents a straight line.
   1. Calculate the slope of this straight line.
   2. Will this straight line slope upwards to the right or downwards to the right as x increases? Give a reason for your answer.
   3. Calculate the y-intercept of this straight line.
   4. Sketch the line. Include the x-intercept in your sketch.

2. Given two lines L: 3x + 2y = 6 and M: -4x + 6y = 10

**(i)** Prove the two lines are perpendicular.

**(ii)** Find the coordinates of the point of intersection of L and M.

3. What is the equation of the line perpendicular to L: 2x – 3y = 10 and containing the point (4,-1)

4. a(0,4), b(-1,-1) and c(5,3) are the vertices of a triangle. Show that the triangle is right-angled:

(i) using Pythagoras’ Theorem

(ii) using the slope formula