



## Leith Academy Higher Home Learning



### THE STRAIGHT LINE

### NON-CALCULATOR

- 1) A straight line passes through the points A(2, -8) and B(-1, 3). Work out the equation of the straight line.
- 2) Calculate the distance between the points P(-5, -1) and Q(8, -7).
- 3) The three vertices of a triangle are A(8, 3), B(-4, 11) and C(1, -3).
  - a) Work out the equation of the altitude passing through B.
  - b) Work out the equation of the median passing through C.
- 4) A straight line makes an angle of  $120^\circ$  with the positive direction of the  $x$ -axis. Calculate the exact value of the gradient of the line.
- 5) P(-6, -3) and Q(2, 9) are two points.
  - a) Show that the equation of the perpendicular bisector of PQ is  $-2x - 3y = -5$ .
  - b) Find the point of intersection between this line and the line  $y = 3x + 9$ .