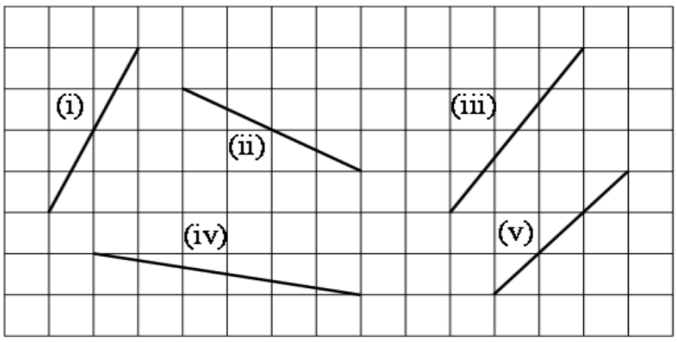
National 5 Mathematics
Formal Homework Block 1 –
Straight Line& Simultaneous Equations

1. Calculate the gradient of the following lines:



5

2. Calculate the gradient of the line joining each pair of points below.

a) A(4,3) , B(8,11) b) C(-2,6) , D(8,-2) **2,2**

3. For each line, write down the gradient and the coordinates of the point where it Crosses the y axis:

(a) $3y = -5x - 12$ (b) $3x = y - 10$ **2,2**

4. Find the equation of the line passing through P(4, 6) which is parallel to the line with equation $4x - 2y + 6 = 0$. **3**

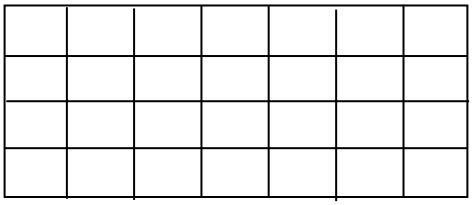
5. Find the point of intersection of the lines with equations:

$3x + 2y = 5$

$2x - 3y = -14$ **4**

6.

A rectangular window has length, l centimetres and breadth, b centimetres.



A security grid is made to fit this window. The grid has 5 horizontal wires and 8 vertical wires.

a) The perimeter of the window is 260 centimetres.
Use this information to write down an equation involving l and b. **1**

b) In total, 770centimetres of wire are used.
Write down another equation involving l and b. **1**

c) Find the length and breadth of the window. **3**

Total = 25