Homework Questions 3 – Finding the Equation of a Line given One point and the Gradient

1. Find the equation of the line which has a gradient of 5 and passes through the point (3,7). Write your answer in the form y=mx+c

> Ans $y = 5x - 8$

2. Find the equation of the line which has a gradient of -2 and passes through the point (4,3). Write your answer in the form ax+by+c=0

> Ans $2x - y + 11 = 0$

3. The line y=5x-10 meets the x-axis at the point A. Find the coordinate of point A and hence find the equation of the line with gradient 3 that passes through point A. Write your answer in the form y=mx+c

> Ans $y = 3x - 6$

4. The line y=2x-7 meets the y-axis at the point B. Find the coordinate of point B and hence find the equation of the line with gradient 4 that passes through point B. Write your answer in the form ax+by+c=0

> Ans $4x - y - 7 = 0$

5. The lines y=3x-2 and y=2x+1 intersect at point C. Find the coordinate of point C and hence find the equation of the line with gradient -0.25 that passes through point C. Write your answer in the form ax+by+c=o

> Ans $x + 4y - 31 = 0$

6. The line y=4x-8 meets the x-axis at point D, the line y=2x-4 meets the y axis at point E. Find the gradient of the line DE and find the equation of the line joining DE. Leave your answer in the form ax+by+c=0

> Ans $2x + y - 4 = 0$