

Chapter 5 Coordinate Geometry in the (x,y) plane

C1

- Find the gradient and the y -intercept of these lines
 - $y = -5x + 1$
 - $6x - 2y + 1 = 0$
- Write these lines in the form $ax + by + c = 0$
 - $y = 3x - 1$
 - $y = -\frac{3}{8}x - \frac{1}{4}$
- A line is parallel to the line $y = -\frac{1}{4}x + 2$ with y -intercept of $(0,3)$. Write the equation.
- A line is parallel to $5x + 2y - 1 = 0$ and goes through the point $(0,1)$. Find the equation of the line.
- The line $y = 3x + 5$ meets the x -axis at the point P. Find point P.
- Work out the gradient of the line joining the points, and hence the equation of the line.
 - $(2,-3)$ and $(4,6)$
 - $(2,-4)$ and $(5,-7)$
 - $(4d,-2d)$ and $(6d,-4d)$
- Find a when the line joining $(3,-4)$ to $(1,a)$ has gradient -1 .
- Find the equation of the line with gradient 4 that passes through the point $(2,-3)$.
- Find the equation of the line with a gradient of $\frac{1}{2}$ that passes through the point $(1,-1)$.
- The line $y = 2x - 6$ meets the x -axis at the point A. Find the equation of the line with gradient $\frac{3}{8}$ that passes through the point A. Write your answer in the form $ax + by + c = 0$, where a , b and c are integers.
- Show that the line $y = 2x - 3$ is perpendicular to $x + 2y - 2 = 0$
- The lines $y = 3x + 4$ and $2x + y + 1 = 0$ intersect at the point A. The point B has coordinates $(2,3)$. Find the equation of the line that passes through A and B in the

form $ax + by + c = 0$, where a , b and c are integers.

- Find the equation of the line that passes through the point $(4,1)$ and is parallel to the equation $y = -3x + 5$
- Show whether the line $y = 3x - 1$ is perpendicular or parallel to the line $x + 3y - 5 = 0$.
- Given $y = -2x + 9$, find an equation that
 - is parallel and passes through $(2,2)$
 - is perpendicular and passes through $(4, 3)$
 - intersects with the line at $x = 3$ and has a gradient of $\frac{1}{2}$.
- Find an equation of the line that passes through the point $(3,-1)$ and is perpendicular to the line $y = 2x - 4$.
- Work out.
 - Find the equation of the line that passes through the points of $(2,4)$ and $(5,1)$.
 - Find the equation of the line parallel to the line of question 17a passing through $(1,2)$
 - Find the equation of the line perpendicular to the line in question 17a which passes through the point $(3,2)$
 - Find the point where the lines of 17a and 17c intersect.
- The points $A(-1,-1)$, $B(1,3)$ and $C(7,-5)$ form the triangle ABC. Find the equation of the line for each side and thus show that triangle ABC is a right angle triangle.