

1. Graph the straight line $y = 2 - 3x$.
2. Write down the gradient and y-intercept of each of the following lines:
(a) $y = 4 - 3x$ (b) $2y = 6x + 5$ (c) $5x - 3y + 8 = 0$
3. Find the size of the angle, to the nearest degree, that the line $y = 3x - 11$ makes with the x-axis.
4. For the line joining the points $(-1, 3)$ and $(5, -1)$, find the:
(a) gradient (b) midpoint (c) length
5. Find the equation of the straight line:
(a) passing through the point $(1, 3)$ with gradient -1 (b) joining $(5, 0)$ and $(-2, 3)$
(c) with gradient 5 and y-intercept 7 (d) with x-intercept 6 and y-intercept 3
(e) passing through $(-2, 4)$ and perpendicular to $y = 3x - 2$
6. Show that the line joining $(-1, 3)$ to $(-2, 2)$ is parallel to the line $5x + y = 7$.
7. Find the point of intersection of the pair of lines: $7x - y = 2$ and $x + y = 6$.
8. Find the equation of the line passing through the point of intersection of the lines $8x - 3y + 5 = 0$ and $5x - 2y + 4 = 0$ and also through the point $(-2, 1)$. Give the answer in general form.
9. Indicate, by shading on the number plane, the region where $y \leq 2x + 3$.
10. Find the perpendicular distance from the point $(-1, 3)$ to the line $4x - 3y + 2 = 0$.
11. Show that the point $P(1, 4)$ is equidistance from the point Q and the line $2x - y + 12 = 0$.
12. $(6, -1)$ is the midpoint of the line joining $P(1, 5)$ and Q . Find the coordinates of Q .
13. Show that the lines $x + y = 2$, $2x - y = -5$ and $5x + 2y = 1$ are concurrent.
14. Find the acute angle between the lines $3x - 4y = 3$ and $x - 2y = 1$.
15. Find the coordinates of the point that divides the:
(a) interval joining $(-5, 6)$ and $(4, -3)$ internally in the ratio $2:1$
(b) interval joining $(-5, 6)$ and $(-2, 3)$ externally in the ratio $3:2$
16. $P(-1, 4)$, $Q(6, 5)$, $R(1, 0)$ and $S(-6, -1)$ are vertices of a quadrilateral.
(a) Show that PR is perpendicular to QS .
(b) Find the midpoints of PR and QS .
(c) Find the length of PR and QS in simplest surd form.
(d) Find the area of $PQRS$.