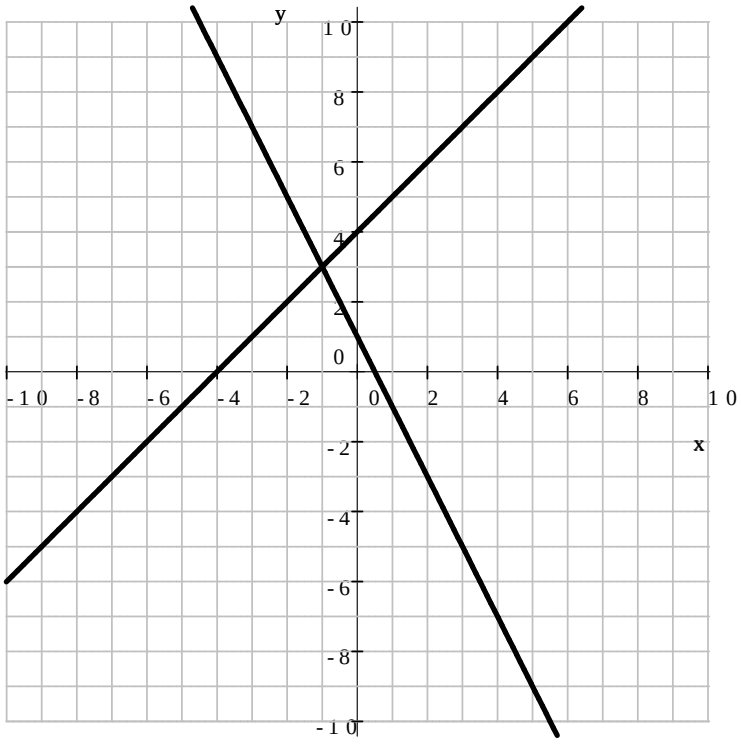
Graph the following straight lines in the same coordinate system. Use your graph to find the coordinates of the point where they intersect. $(-1, 3)$

$$\begin{aligned} y &= -2x + 1 \\ y &= x + 4 \end{aligned}$$



Use algebraic methods to check your answer.
Solution: The point $(-1, 3)$ is on the line $y = -2x + 1$, since if $x = -1$ and $y = 3$, then

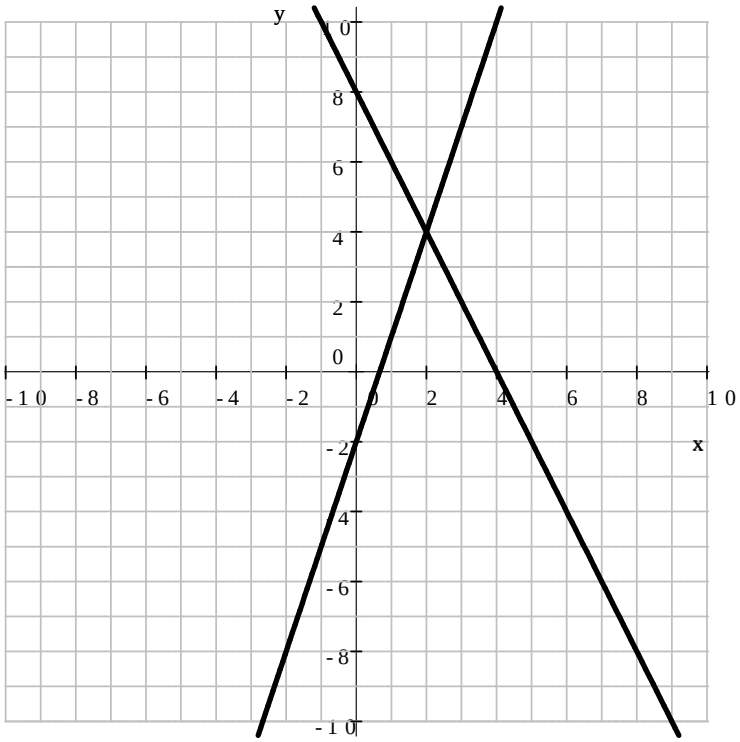
$$\begin{aligned} \text{LHS} &= y = 3 \quad \text{and} \\ \text{RHS} &= -2x + 1 = -2(-1) + 1 = 2 + 1 = 3 \end{aligned}$$

and the point $(-1, 3)$ is on the line $y = x + 4$, since if $x = -1$ and $y = 3$, then

$$\begin{aligned} \text{LHS} &= y = 3 \quad \text{and} \\ \text{RHS} &= x + 4 = -1 + 4 = 3 \end{aligned}$$

Graph the following straight lines in the same coordinate system. Use your graph to find the coordinates of the point where they intersect. $(2, 4)$

$$\begin{aligned} y &= 3x - 2 \\ y &= -2x + 8 \end{aligned}$$



Use algebraic methods to check your answer.
Solution: The point $(2, 4)$ is on the line $y = 3x - 2$, since if $x = 2$ and $y = 4$, then

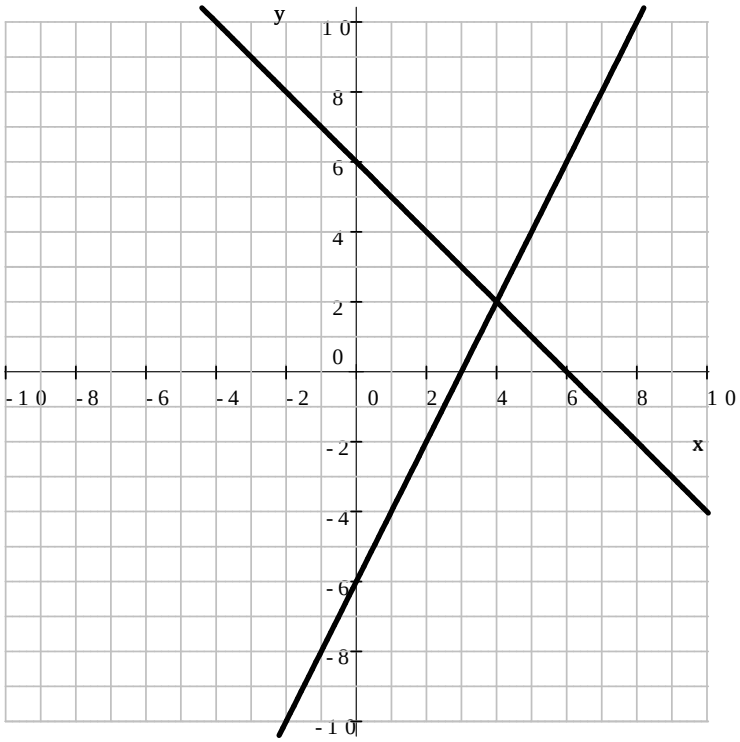
$$\begin{aligned} \text{LHS} &= y = 4 \quad \text{and} \\ \text{RHS} &= 3x - 2 = 3\,(2) - 2 = 6 - 2 = 4 \end{aligned}$$

and the point $(2, 4)$ is on the line $y = -2x + 8$, since if $x = 2$ and $y = 4$, then

$$\begin{aligned} \text{LHS} &= y = 4 \quad \text{and} \\ \text{RHS} &= -2x + 8 = -2\,(2) + 8 = -4 + 8 = 4 \end{aligned}$$

Graph the following straight lines in the same coordinate system. Use your graph to find the coordinates of the point where they intersect. $(4, 2)$

$$\begin{aligned} y &= 2x - 6 \\ y &= 6 - x \end{aligned}$$



Use algebraic methods to check your answer.
Solution: The point $(4, 2)$ is on the line $y = 2x - 6$, since if $x = 4$ and $y = 2$, then

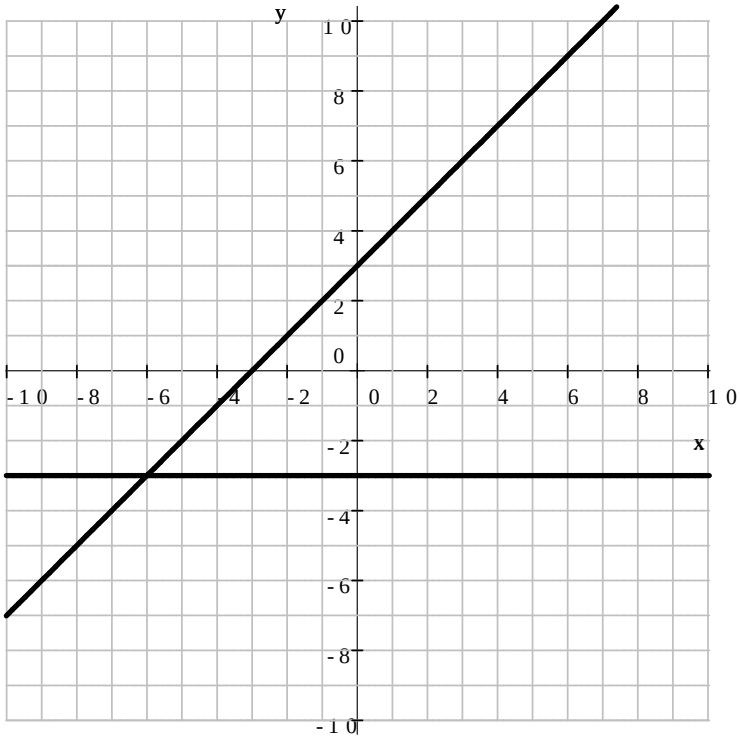
$$\begin{aligned} \text{LHS} &= y = 2 \quad \text{and} \\ \text{RHS} &= 2x - 6 = 2\,(4) - 6 = 8 - 6 = 2 \end{aligned}$$

and the point $(4, 2)$ is on the line $y = 6 - x$, since if $x = 4$ and $y = 2$, then

$$\begin{aligned} \text{LHS} &= y = 2 \quad \text{and} \\ \text{RHS} &= 6 - x = 6 - 4 = 2 \end{aligned}$$

Graph the following straight lines in the same coordinate system. Use your graph to find the coordinates of the point where they intersect. $(-6, -3)$

$$\begin{aligned} y &= -3 \\ y &= x + 3 \end{aligned}$$



Use algebraic methods to check your answer.
Solution: The point $(-6, -3)$ is on the line $y = -3$, since if $x = -6$ and $y = -3$, then

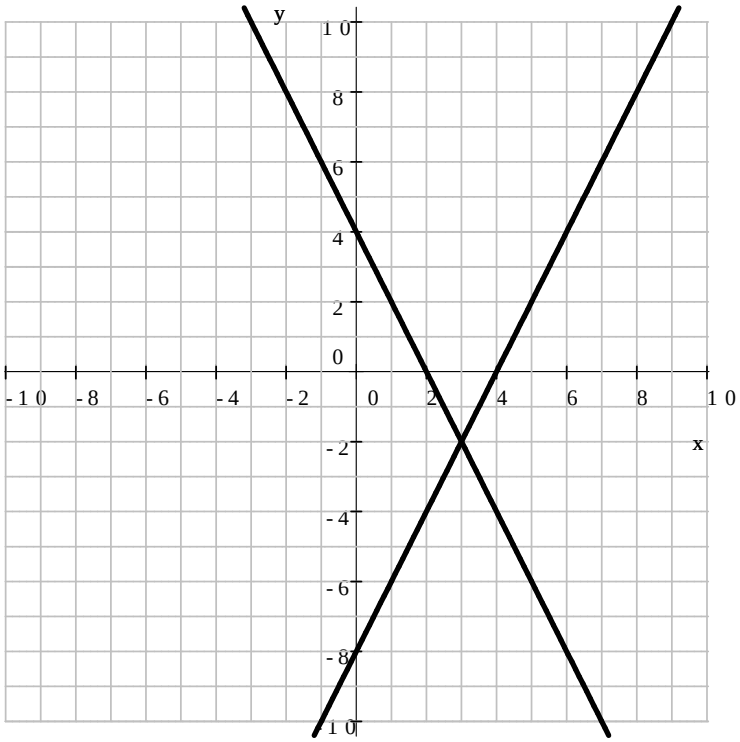
$$\begin{aligned} \text{LHS} &= y = -3 \quad \text{and} \\ \text{RHS} &= -3 \end{aligned}$$

and the point $(-6, -3)$ is on the line $y = x + 3$, since if $x = -6$ and $y = -3$, then

$$\begin{aligned} \text{LHS} &= y = -3 \quad \text{and} \\ \text{RHS} &= x + 3 = -6 + 3 = -3 \end{aligned}$$

Graph the following straight lines in the same coordinate system. Use your graph to find the coordinates of the point where they intersect. $(3, -2)$

$$\begin{aligned} y + 2x &= 4 \\ y &= 2x - 8 \end{aligned}$$



Use algebraic methods to check your answer.
Solution: The point $(3, -2)$ is on the line $y + 2x = 4$, since if $x = 3$ and $y = -2$, then

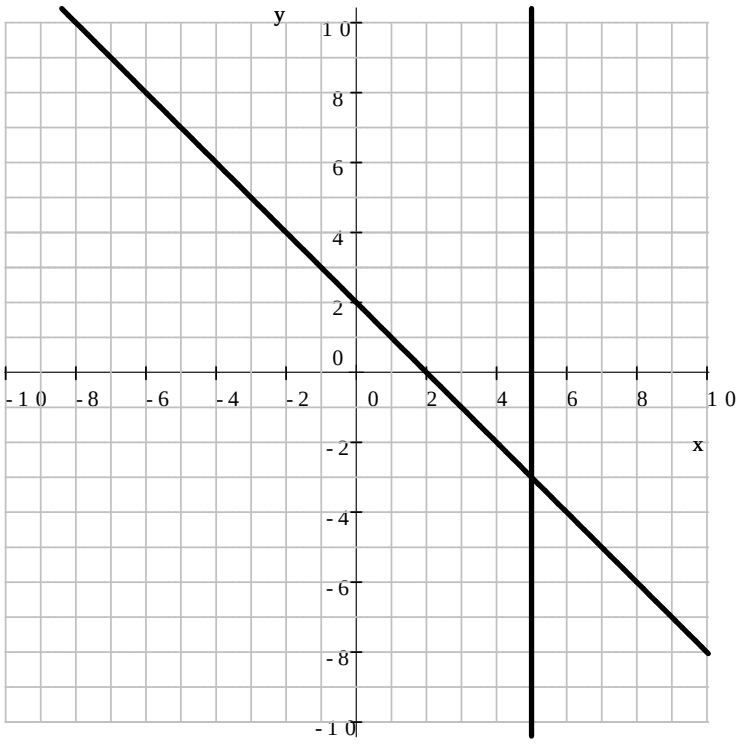
$$\begin{aligned} \text{LHS} &= y + 2x = -2 + 2 \cdot 3 = -2 + 6 = 4 \quad \text{and} \\ \text{RHS} &= 4 \end{aligned}$$

and the point $(3, -2)$ is on the line $y = 2x - 8$, since if $x = 3$ and $y = -2$, then

$$\begin{aligned} \text{LHS} &= y = -2 \quad \text{and} \\ \text{RHS} &= 2x - 8 = 2 \cdot 3 - 8 = 6 - 8 = -2 \end{aligned}$$

Graph the following straight lines in the same coordinate system. Use your graph to find the coordinates of the point where they intersect. $(5, -3)$

$$\begin{aligned} x &= 5 \\ x + y &= 2 \end{aligned}$$



Use algebraic methods to check your answer.
Solution: The point $(5, -3)$ is on the line $x = 5$, since if $x = 5$ and $y = -3$, then

$$\begin{aligned} \text{LHS} &= x = 5 \quad \text{and} \\ \text{RHS} &= 5 \end{aligned}$$

and the point $(5, -3)$ is on the line $x + y = 2$, since if $x = 5$ and $y = -3$, then

$$\begin{aligned} \text{LHS} &= x + y = 5 + (-3) = 2 \quad \text{and} \\ \text{RHS} &= 2 \end{aligned}$$