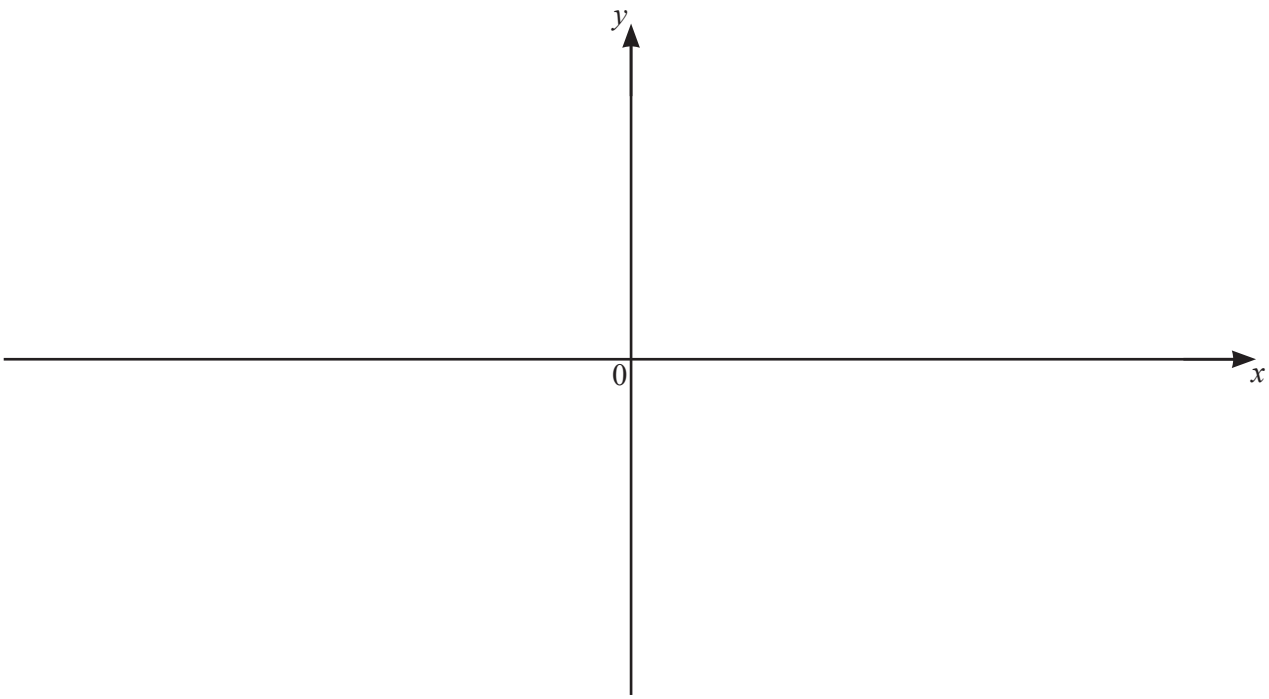
1 On the axes below, sketch the graph of $y = -\frac{1}{4}(2x+1)(x-3)(x+4)$ stating the intercepts with the coordinate axes. [3]



2 A particle moves in a straight line such that its velocity, v ms^{-1}, at time t seconds after passing through a fixed point O, is given by $v = e^{3t} - 25$. Find the speed of the particle when $t = 1$. [2]

3 Solve the equation $\cot^2\left(2x-\frac{\pi}{3}\right)=\frac{1}{3}$, where x is in radians and $0 \leqslant x < \pi$. [5]

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