3 The line AB is such that the points A and B have coordinates $(-4, 6)$ and $(2, 14)$ respectively.

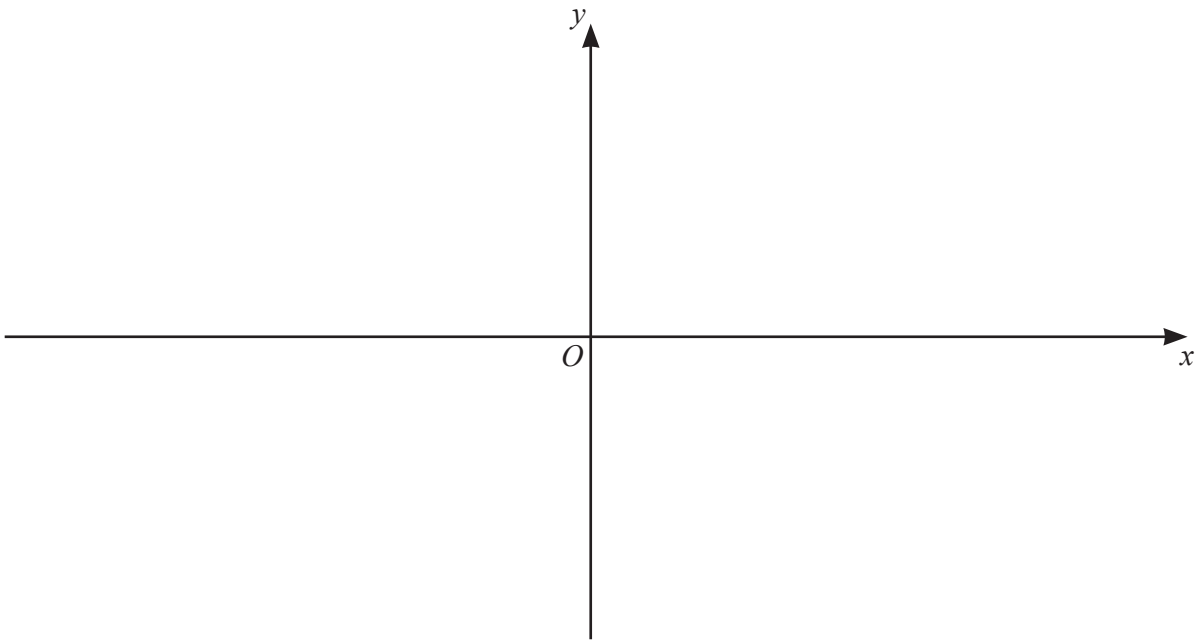
(a) The point C, with coordinates $(7, a)$ lies on the perpendicular bisector of AB. Find the value of a. [4]

(b) Given that the point D also lies on the perpendicular bisector of AB, find the coordinates of D such that the line AB bisects the line CD. [2]

4 **(a)** Show that $2x^2 + 5x - 3$ can be written in the form $a(x+b)^2 + c$, where a, b and c are constants. [3]

(b) Hence write down the coordinates of the stationary point on the curve with equation $y = 2x^2 + 5x - 3$. [2]

(c) On the axes below, sketch the graph of $y = |2x^2 + 5x - 3|$, stating the coordinates of the intercepts with the axes. [3]



(d) Write down the value of k for which the equation $|2x^2 + 5x - 3| = k$ has exactly 3 distinct solutions. [1]

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