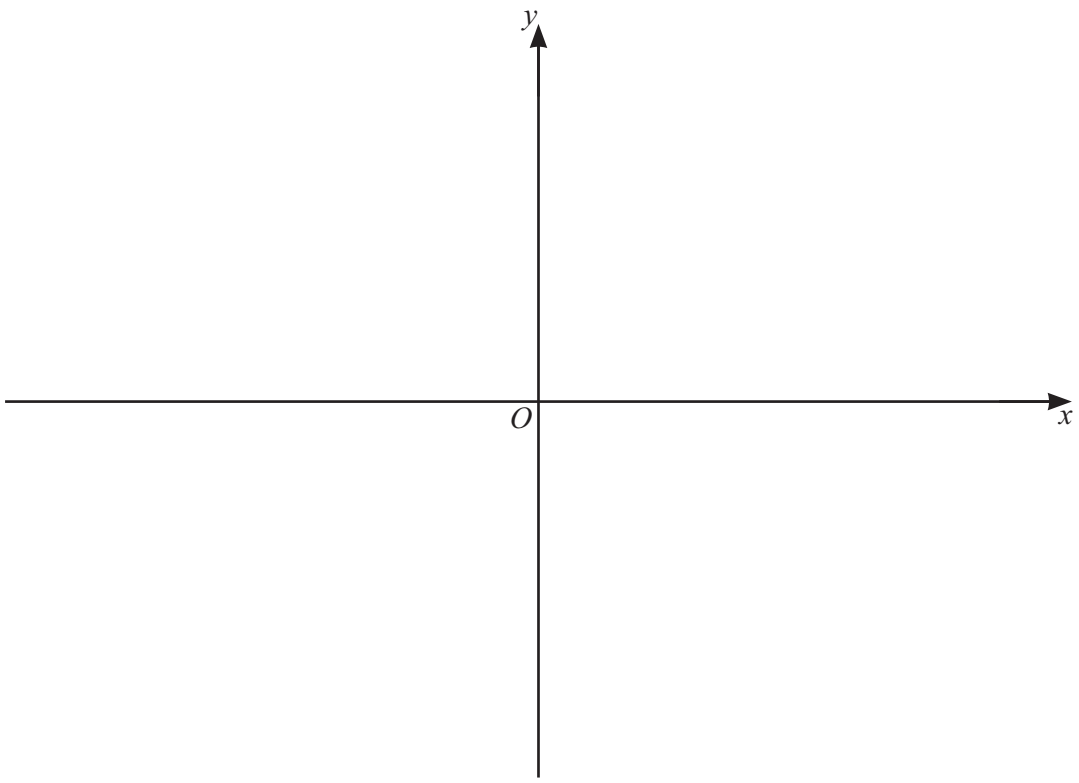
Calculators must **not** be used in this paper.

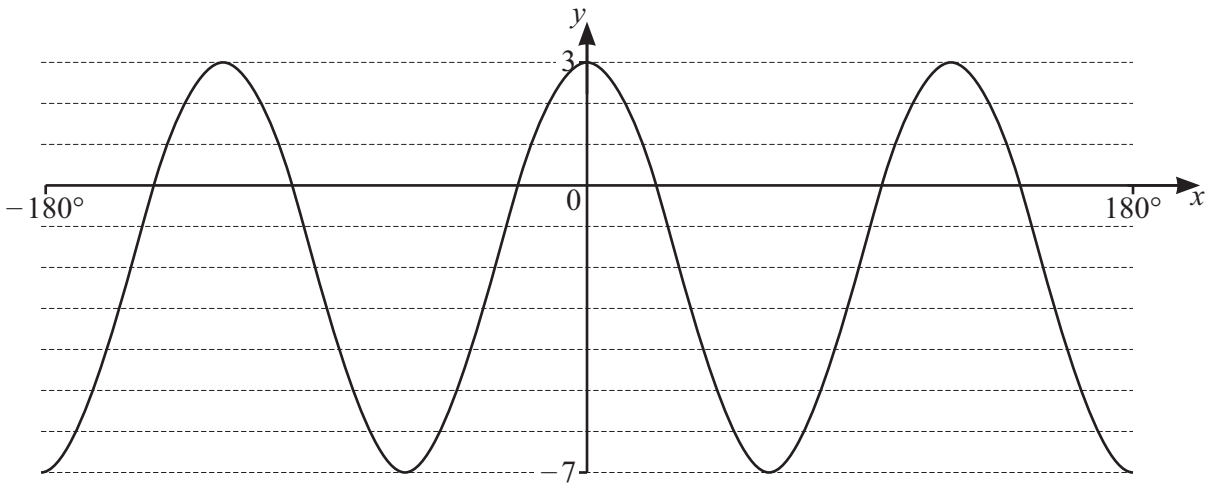
1 **(a)** On the axes, sketch the graphs of $y = 4|x-1|$ and $y = |3x+2|$, stating the intercepts with the axes. [3]



(b) Solve the inequality $4|x-1| \leqslant |3x+2|$. [4]

DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN

2



The diagram shows the curve $y = a\cos bx + c$ for $-180° \leqslant x \leqslant 180°$.
It is given that a, b and c are integers.

Find the values of a, b and c. [3]

3 The point A has coordinates $(-3, 6)$.
The point B has coordinates $(7, -8)$.

Given that the line AB is the diameter of a circle, find the equation of the circle. [4]

DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN