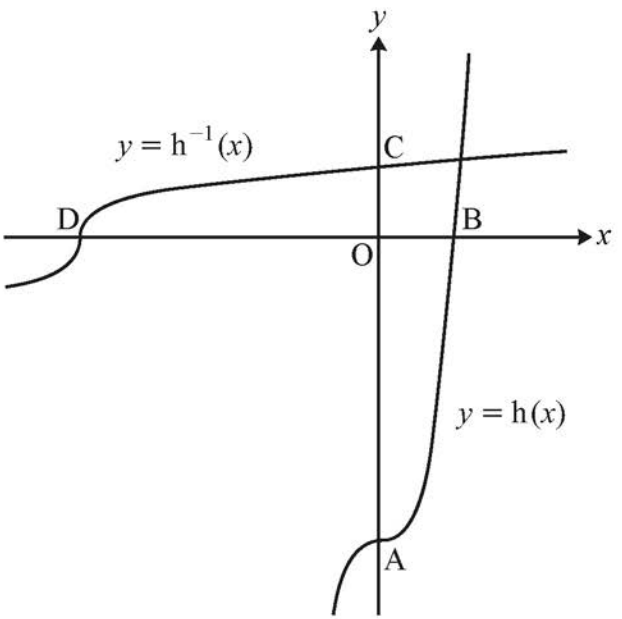
8 The curves $y = \mathrm{h}(x)$ and $y = \mathrm{h}^{-1}(x)$, where $\mathrm{h}(x) = x^3 - 8$, are shown below.

The curve $y = \mathrm{h}(x)$ crosses the x-axis at B and the y-axis at A.

The curve $y = \mathrm{h}^{-1}(x)$ crosses the x-axis at D and the y-axis at C.



(a) Find an expression for $\mathrm{h}^{-1}(x)$. **[2]**

(b) Determine the coordinates of A, B, C and D. **[5]**

(c) Determine the equation of the perpendicular bisector of AB. Give your answer in the form $y = mx + c$, where m and c are constants to be determined. **[4]**

(d) Points A, B, C and D lie on a circle.

Determine the equation of the circle. Give your answer in the form $(x-a)^2 + (y-b)^2 = r^2$, where a, b and r^2 are constants to be determined. **[5]**