



The diagram shows a curve C for which y is inversely proportional to x . The curve passes through the point $(1, -\frac{1}{2})$.

(a) (i) Determine the equation of the **gradient function** for the curve C . [3]

(ii) Sketch this **gradient function** on the axes in the Printed Answer Booklet. [1]

(b) The diagram indicates that the curve C has no stationary points.

State what feature of your sketch in part (a)(ii) corresponds to this. [1]

(c) The curve C is translated by the vector $\begin{pmatrix} -2 \\ 0 \end{pmatrix}$.

Find the equation of the curve after it has been translated. [2]