4 **(a)** Sketch, on a single diagram, the following graphs.

- $y = |x - 1|$
- $y = \frac{k}{x}$, where k is a negative constant **[2]**

(b) Hence explain why the equation $x|x - 1| = k$ has exactly one real root for any negative value of k. **[1]**

(c) Determine the real root of the equation $x|x - 1| = -6$. **[2]**