

- 10 (a)** Sketch the graph of $y = \frac{1}{x} + a$, where a is a positive constant.
- State the equations of the horizontal and vertical asymptotes.
 - Give the coordinates of any points where the graph crosses the axes. **[4]**
- (b)** Find the equation of the normal to the curve $y = \frac{1}{x} + 2$ at the point where $x = 2$. **[5]**
- (c)** Find the coordinates of the point where this normal meets the curve again. **[3]**