

4.

A curve C has equation,

$$y^2 = \frac{3x^2}{3x - \frac{3}{2}}, \quad x \in \mathbb{R}, \quad x > \frac{1}{2}$$

- (a) Show that there are two tangents to C , which pass through the point $\left(\frac{1}{2}, \sqrt{2}\right)$ (11)
- (b) Find the equations of these tangents, in the form $ax + by + c = 0$, where a, b and c are exact constants to be determined. (5)