

9 The equation of a curve is  $y = 12x - 4x^{\frac{3}{2}}$ .

(a) State the coordinates of the intersection of the curve with the  $y$ -axis. [1]

(b) Find the value of  $y$  when  $x = 9$ . [1]

(c) Determine the coordinates of the stationary point. [5]

(d) Sketch the curve, giving the coordinates of the stationary point and of any intercepts with the axes. [3]