

**12** A curve has equation  $y = 6x\sqrt{x} + \frac{32}{x}$  for  $x > 0$

**12 (a)** Find  $\frac{dy}{dx}$

**[4 marks]**

**12 (b)** The point  $A$  lies on the curve and has  $x$ -coordinate 4

Find the coordinates of the point where the tangent to the curve at  $A$  crosses the  $x$ -axis.

**[5 marks]**