10 The gradient of a curve is given by

$$\frac{dy}{dx} = 2x - \frac{4}{\sqrt{x}} + b$$

where $x > 0$ and b is a constant.

The curve has a turning point where $x = 4$

10 (a) Find the value of b

[2 marks]

10 (b) Determine the nature of the turning point.

Fully justify your answer.

[3 marks]

10 (c) The curve passes through the point with coordinates (9, 1)

Find the equation of the curve.

[4 marks]