

11 In this question you must show detailed reasoning.

The equation of a curve is $y = 5\sqrt{x} - x - 6$ for $x \geq 0$.

(a) Verify that the curve cuts the x -axis at $x = 4$ and at $x = 9$.

[2]

The curve does not cut or touch the x -axis at any other points.

(b) Determine the exact area bounded by the curve and the x -axis.

[4]