

16. A curve has equation $y = f(x)$, $x \geq 0$

Given that

- $f'(x) = 4x + a\sqrt{x} + b$, where a and b are constants
- the curve has a stationary point at $(4, 3)$
- the curve meets the y -axis at -5

find $f(x)$, giving your answer in simplest form.

(6)