9. For a function $f$, defined on a suitable domain, it is known that:

- $f'(x) = \frac{2x + 1}{\sqrt{x}}$

- $f(9) = 40$

Express $f(x)$ in terms of $x$.

Answer

$$f(x) = \frac{4}{3} x^{\frac{3}{2}} + 2x^{\frac{1}{2}} - 2$$