## Question 1 (8 marks)

For the functions below, determine  $\frac{\mathrm{d}y}{\mathrm{d}x}$ . You do not need to simplify your answers.

(a) 
$$y = 5 + 4\sqrt{x} - \frac{10}{x^3}$$
.



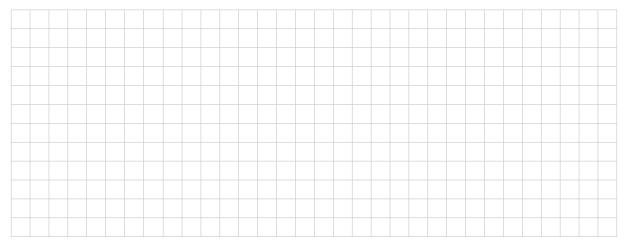
(2 marks)

(b) 
$$y = \frac{e^{0.5x}}{0.7x + e^x}$$
.



(3 marks)

(c) 
$$y = \ln(x^2 \sqrt{1 - 4x})$$
.



(3 marks)