



3. Given that $y = 4x^3 - \frac{5}{x^2}$, $x \neq 0$, find in their simplest form

$$(a) \quad \frac{dy}{dx} \tag{3}$$

$$(b) \int y dx \tag{3}$$

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Question 4 continued

(Total 8 marks)

Q4



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[illegible]

7. Given that $y = 2^x$,

(a) express 4^x in terms of y .

(1)

(b) Hence, or otherwise, solve

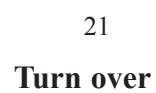
$$8(4^x) - 9(2^x) + 1 = 0$$

(4)

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Question 8 continued



- (2)

- (5)



