12 A curve has equation $y = \dfrac{e^{(x^2)}}{x-2}$ for $x < 2$.

(a) Find the value of $\dfrac{dy}{dx}$ when $x = 0$. [4]

When $x = 0$, y is increasing at the rate of 0.5 units per second.

(b) Find the corresponding rate of change of x. [2]

Question 13 is printed on the next page.

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13 For $-1 \leqslant x \leqslant 1$ it is given that $x = 2 - 3\sin\theta$ and $y = 3\cot^2\theta$.

Find y in terms of x. [4]

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