

Advanced Higher Maths  
SQA 2021 Paper 2  
Question 6



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Solve the differential equation

$$\frac{dy}{dx} + 2xy = 14xe^{-x^2}$$

given that when  $x = 0$ ,  $y = 3$ .

Express  $y$  in terms of  $x$ .

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Answer:

$$y = \frac{7x^2 + 3}{e^{x^2}}$$