

Advanced Higher Maths  
SQA 2024 Paper 2  
Question 4



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Solve the differential equation

$$\frac{d^2y}{dx^2} - 2\frac{dy}{dx} - 8y = 0$$

given that  $y = -2$  and  $\frac{dy}{dx} = 22$  when  $x = 0$ .

5

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Answer:

$$y = -5e^{-2x} + 3e^{4x}$$