

Advanced Higher Maths
SQA 2021 Paper 1
Question 8



Find the particular solution of the differential equation

$$\frac{d^2y}{dx^2} + \frac{dy}{dx} - 6y = 35e^{2x}$$

given $y = 5$ and $\frac{dy}{dx} = 12$ when $x = 0$.

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Answer:

$$y = 4e^{2x} + e^{-3x} + 7xe^{2x}$$