Advanced Higher Maths
SQA 2025 Paper 2
Question 12

Solve the differential equation

$$\frac{d^2y}{dx^2} - 8\frac{dy}{dx} + 15y = 15x^2 - 31x + 40$$

given that $y = 4$ and $\frac{dy}{dx} = 13$ when $x = 0$. **9**

Answer:

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