Advanced Higher Maths
SQA 2022 Paper 2
Question 10

Solve the differential equation

$$\frac{d^2y}{dx^2} - 4\frac{dy}{dx} + 4y = 9\sin x + 13\cos x$$

given that $y = 5$ and $\frac{dy}{dx} = 0$ when $x = 0$. **9**

Answer:

$y = 2e^{2x} - 3xe^{2x} - \sin x + 3\cos x$