

| Question | Answer | Marks | Guidance |
|----------|--|-----------|---|
| | Use product rule to differentiate $e^{2x} \cos 2y$ | M1 | Must be evidence of implicit differentiation |
| | Obtain $2e^{2x} \cos 2y - 2e^{2x} \sin 2y \frac{dy}{dx}$ | A1 | |
| | Obtain $\left[2e^{2x} \cos 2y - 2e^{2x} \sin 2y \frac{dy}{dx} + \right] \cos y \frac{dy}{dx} = 0$ | B1 | |
| | Substitute x - and y -values to find value of first derivative | M1 | Dependent at least two terms, with at least one involving $\frac{dy}{dx}$ |
| | Obtain $\frac{2}{\sqrt{3}}$ or $\frac{2}{3}\sqrt{3}$ or exact equivalent | A1 | |
| | | 5 | |

