

Indefinite Integrals Ex 19.1 Q5

(i)
$$\int \frac{\cos 2x + 2\sin^2 x}{\sin^2 x} dx$$

$$= \int \frac{\cos 2x + 2\sin^2 x}{\sin^2 x} dx$$

$$= \int \frac{1 - 2\sin^2 x + 2\sin^2 x}{\sin^2 x} dx$$

$$= \int \frac{1}{\sin^2 x} dx$$

$$= \int \cos ec^2 x dx$$

$$= -\cot x + c$$

(ii)
$$\int \frac{2\cos^2 x - \cos 2x}{\cos^2 x} dx$$

$$= \int \frac{2\cos^2 x - \left(2\cos^2 x - 1\right)}{\cos^2 x} dx$$

$$= \int \frac{2\cos^2 x - 2\cos^2 x + 1}{\cos^2 x} dx$$

$$= \int \frac{1}{\cos^2 x} dx$$

$$= \int \sec^2 x dx$$

$$= \tan x + c$$

Indefinite Integrals Ex 19.1 Q6

$$\int \frac{e^{\log \sqrt{x}}}{x} dx = \int \frac{\sqrt{x}}{x} dx$$

$$= \int x^{\frac{1}{2}} \times x^{-1} dx$$

$$= \int x^{\frac{1}{2} - 1} dx$$

$$= \int x^{\frac{-1}{2} - 1} dx$$

$$= \frac{x^{\frac{-1}{2} + 1}}{\frac{-1}{2} + 1} + C$$

$$= \frac{x^{\frac{1}{2}}}{\frac{1}{2}}$$

$$=2\sqrt{X}+c$$

********* END *******