

43] Suppose the marginal revenue from the sale of  $x$  units of a product is  $MR = 6e^{0.01x}$ . What is the revenue from the sale of 100 units?

$$\rightarrow R(x) = \int 6 e^{0.01x} dx$$

$$= \frac{6}{0.01} \int 0.01 e^{0.01x} dx$$

$$= 600 e^{0.01x} + C$$

to find  $C$ :  $R(0) = 0$

$$0 = 600 e^0 + C$$

$$0 = \underset{-600}{600} + C \quad \therefore C = -600$$

So  $R(x) = 600 e^{0.01x} - 600$

the revenue from the sale of 100 units:

$$\begin{aligned} R &= 600 e^{0.01(100)} - 600 \\ &= 600 e^1 - 600 \\ &= 1030.96 \end{aligned}$$