

(c) Is the rate of growth of the future value after 1 year greater than 10%?

$$S' = 0.11P$$

$$\leftrightarrow 10\% = \frac{10}{100} = 0.1$$

نفس الكمية
 $S' = 0.11P$
0.1 أكبر من 0.11

So S' after 1 year is greater than 10%

47 Suppose that the total cost is given by.

$$C(x) = 10000 + 20xe^{\frac{x}{600}}$$

Find the marginal cost when 600 units are produced.

$$MC = C'(x) = 20x \left(\frac{1}{600} e^{\frac{x}{600}} \right) + e^{\frac{x}{600}} (20)$$

$$= \frac{1}{30} x e^{\frac{x}{600}} + 20 e^{\frac{x}{600}}$$

at $x = 600$

$$\rightarrow MC = \frac{1}{30} (600) e^{\frac{600}{600}} + 20 e^{\frac{600}{600}}$$

$$= 20e^1 + 20e^1$$

$$= 40e^1$$

$$= \underline{\underline{54.36}}$$