

Q6 Prep V.01

$$\frac{t}{5600}$$

(12)

$$.15 A_0 = A_0 \left(\frac{1}{2} \right)^{\frac{1}{5600} t}$$

$$.15 = \left(\frac{1}{2} \right)^{\frac{1}{5600} t}$$

$$\log_{\frac{1}{2}} (.15) = \log_{\frac{1}{2}} \left(\frac{1}{2} \right)^{\frac{1}{5600} t}$$

$$\log_{\frac{1}{2}} (.15) = \frac{1}{5600} t$$

$$\log_{\frac{1}{2}} (.15) = \frac{t}{5600}$$

$$5600 \log_{\frac{1}{2}} (.15) = t \quad \text{or}$$

$$5600 \left[\frac{\log (.15)}{\log \left(\frac{1}{2} \right)} \right] = t$$

$$\boxed{t = 15,327.00733}$$