

$$\frac{dy}{dt} = Ky$$

$$\frac{1}{y} dy = K dt$$

∴

$$y = Ce^{Kt} \quad \boxed{E} \text{ exponential}$$

3)

$$\frac{dy}{dt} = Ky$$

$$t=0 \quad y=10$$

$$t=8 \quad y=20$$

$$y = Ce^{Kt}$$

$$10 = Ce^0$$

$$C = 10$$

$$y = 10e^{Kt}$$

$$20 = 10e^{8K}$$

$$2 = e^{8K}$$

$$\ln 2 = 8K$$

$$K = \frac{\ln 2}{8} \approx 0.087 \quad \boxed{A}$$