



$$u(t) = 3 \cdot t \rightarrow U(s) = \frac{3}{s^2}$$

$$G(s) = \frac{1}{s+1}$$

$$y(t) = ?$$

$$G(s) = \frac{Y(s)}{U(s)} \rightarrow Y(s) = G(s) \cdot U(s)$$

$$Y(s) = G(s) \cdot U(s) = \frac{3}{s^2} \cdot \frac{1}{s+1} = \frac{3}{s^2 \cdot (s+1)}$$

$$Y(s) = \frac{3}{s^2 \cdot (s+1)}$$

$$\frac{3}{s^2 \cdot (s+1)} = \frac{A}{s^2} + \frac{B}{s+1}$$

$$\mathcal{L}\{t^n\} = \frac{n!}{s^{n+1}}$$

$$y(t) = \mathcal{L}^{-1}\{Y(s)\}$$

$$y(t) = 2 \cdot t$$