

MATH 246 Groupwork 2.9b**Name:** _____

1. Find $\mathcal{L} [u_2(t)(t-2)^5]$.

2. Solve the initial value problem:

$$y'' - 2y' + 2y = 0 \quad \text{with} \quad y(0) = 2 \text{ and } y'(0) = 0$$

3. Define the function:

$$f(t) = \begin{cases} 0 & \text{for } t < 3 \\ t - 3 & \text{for } t \geq 3 \end{cases}$$

Solve the initial value problem:

$$y' + 2y = f(t) \quad \text{with} \quad y(0) = 2$$