

Instructions: Show all work. Answers without work required to obtain the solution will not receive full credit. Some questions may contain multiple parts: be sure to answer all of them. Give exact answers unless specifically asked to estimate.

1. Find the Laplace transform of $f(t) = t$ **using the definition**. Recall $L(f) = \int_0^{\infty} e^{-st} f(t) dt$.

2. Use the table to find the inverse Laplace transform of $F(s) = \frac{1-2s}{s^2+4s+5}$.