

Math 240 - Quiz 11

November 30, 2023

Name _____

Score _____

Show all work to receive full credit. Supply explanations when necessary.

1. (2 points) Use **convolution** to find the inverse transform of $Y(s) = \frac{14}{(s+2)(s-5)}$.

2. (2 points) Use the derivative-of-transform theorem to compute the Laplace transform of $f(t) = te^{-t} \sin 2t$. Use your table to check that your answer is correct.

3. (6 points) Use Laplace transforms to solve. (Use the back if necessary.)

$$y'' + 3ty' - 6y = 1; \quad y(0) = 0, \quad y'(0) = 0$$