

MATH 2850: TEST 10 (25 points.)

NAME: _____

DUE: Wednesday, April 3rd, at the beginning of class.

DIRECTIONS: Show all work.

1. A spring-mass system is modeled by: $y'' + 4y' + 5y = 10$, $y(0) = 2$, $y'(0) = -1$.

(a) Circle the correct choice of the bolded words in the sentence below:

The mass is released **above** / **below** the equilibrium position heading **upwards** / **downwards**.

(b) Solve this IVP using the Method of Undetermined Coefficients.

(c) Identify the transient and steady-state parts of the solution.

(d) Is this system overdamped, underdamped, or critically damped? Explain.