

Homework #6**Math 527, UNH spring 2018**

Due Tuesday, March 27 in recitation.

Follow the usual instructions on homework submission: Be clear, legible, and organized. Write on loose-leaf paper. Staple together in the left-hand corner, write your name, section #, Math 527 HW6, and date in the upper-right-hand corner.

Use Laplace transforms to solve the initial value problems.

1. $y' - y = 1, \quad y(0) = 0$

2. $y' + 6y = e^{4t}, \quad y(0) = 2$

3. $y'' + 5y' + 4y = 0, \quad y(0) = 1, \quad y'(0) = 0$

4. $y'' + y = \sqrt{2} \sin \sqrt{2}t, \quad y(0) = 10, \quad y'(0) = 0$

5. $y'' - 6y' + 9y = t, \quad y(0) = 0, \quad y'(0) = 1$

6. $y'' - 4y' + 4y = t^3 e^{2t}, \quad y(0) = 0, \quad y'(0) = 0$

These problems are Zill 7.2 exercises 31, 33, 35, 37, and 7.3 exercises 25, 24.