

## Math 2080: Differential Equations

### Worksheet 5.5: Impulse functions

NAME:

1. Use a Laplace transform to solve the following initial value problem:

$$y' = \delta_p(t), \quad y(0) = 0.$$

Why does this also suggest that  $H_p'(t) = \delta_p(t)$ ?

2. Describe what physical situation is modeled by the initial value problem  $y'' + 4y = \delta_0(t)$ ,  $y(0) = y'(0) = 0$ , and then solve it.