

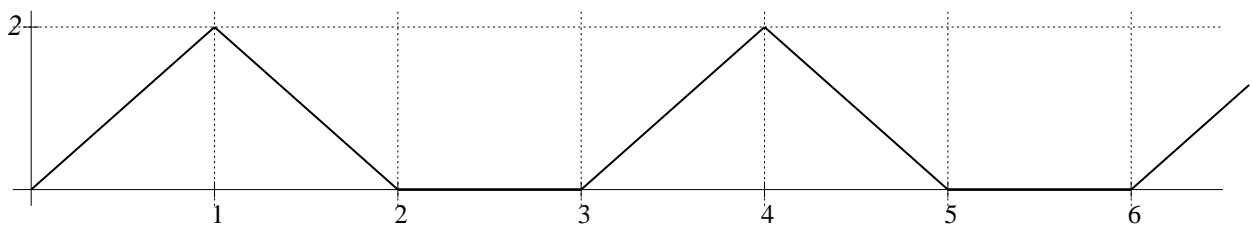
**Math 274 Quiz 8**

Sections: 7.6

30 May 2018

Name: \_\_\_\_\_  
Point values in .

1.  A graph of  $y = f(t)$  is given below.



Find the Laplace transform of  $f(t)$ .

2. Assume  $g(t)$  is piecewise continuous and of exponential order and consider the initial value problem

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

(a) 3 Find the solution. Express your solution in terms of a convolution.

(b) 1 Express the solution in terms of the appropriate convolution integral. **Do not evaluate the integral.**

(c) 3 If  $g(t) = e^{-2t}$ , find the solution, i.e., evaluate the convolution.