

Name:

1. Solve the following initial value problem.

$$y'' + 6y' + 9y = 0$$

$$y(0) = 2$$

$$y'(0) = 3$$

2. Are each of the following pairs of functions linearly dependent or independent? Justify your answers.

(a)  $f_1(t) = e^t$ ,  $f_2(t) = \sin t$ .

(b)  $g_1(t) = t$ ,  $g_2(t) = |t|$ .