

If you think something's supposed to hurt, you're less likely to notice if you're doing it wrong.

Name and section: _____

1. (5 points) Find the unique solution of the differential equation $y''' - 9y'' + 27y' - 27y = 0$ with initial conditions $y(0) = 1, y'(0) = 4, y''(0) = 16$.

2. (5 points) Show that the functions $\{\cos x, \sin x\}$ are linearly independent.