MA 262 - Quiz 3 (Lessons 6–7)

1. An object of mass $1\,\mathrm{kg}$ is dropped into the air. The air resistance force (in Newtons) is $-5v$ where v is the velocity of the object, the acceleration due to gravity is assumed to be $10\,\mathrm{m/sec^2}$. Determine the equation of the motion of the object (i.e. the equation describing the position $x(t)$).

2. Find a solution to the system of linear equations

$$4x_1 + 16x_2 = 4$$
$$3x_1 + 13x_2 = 4 \ .$$