Math 20C **Homework 1** **Due October 11, 2019**

Note: *The score you earn will be based on the correctness of your solutions. A "right answer" will earn no credit without a correct solution to support it.*

(6 points) 1. Determine whether the lines

$$x = 3t + 2, \;\; y = t - 1, \;\; z = 6t + 1, \;\; \text{and}$$
$$x = 3s - 1, \;\; y = s - 2, \;\; z = s$$

intersect.

(6 points) 2. Find b and c so that $(5, b, c)$ is orthogonal to both $(1, 2, 3)$ and $(1, -2, 1)$.

(6 points) 3. Find all values of x such that $(7, x, -10)$ and $(3, x, x)$ are orthogonal.