MATHEMATICS 133, FALL 2020, QUIZ 1

Directions: The answers to this quiz are to be submitted to the instructor of your discussion section by **11:59 P.M.** on **Thursday, October 29**. Please include your name, student identification number, and discussion section number on the worked out quiz.

1. Take the last four digits **ABCD** of your student identification number, and consider the points $p = (A, B)$ and $q = (C, D)$. Determine whether or not the points p and q lie on the same side of the line defined by the first degree equation $11x + 40y = 260$. If the two points coincide, then our convention is that they lie on the same side.

2. Determine if the line defined by $11x + 40y = 260$ and the line pq have a point w in common. If so, determine which of the three points p, q, w is between the other two.

In the second part, you may assume the following fact: Given three collinear points $\mathbf{x} = (x_1, x_2)$, $\mathbf{y} = (y_1, y_2)$, $\mathbf{z} = (z_1, z_2)$, then $\mathbf{y}$ is between $\mathbf{x}$ and $\mathbf{z}$ if either $x_1 < y_1 < z_1$ or $z_1 < y_1 < x_1$ holds.

You may use a calculator or simple programmable device to work this quiz. Any valid approach to finding the answers is acceptable (but you may be asked to justify a procedure if it is nonstandard). Although you may consult with other students about material related this problem, the quiz is **NOT** collaborative; the answers you submit must be your own work and no one else's.