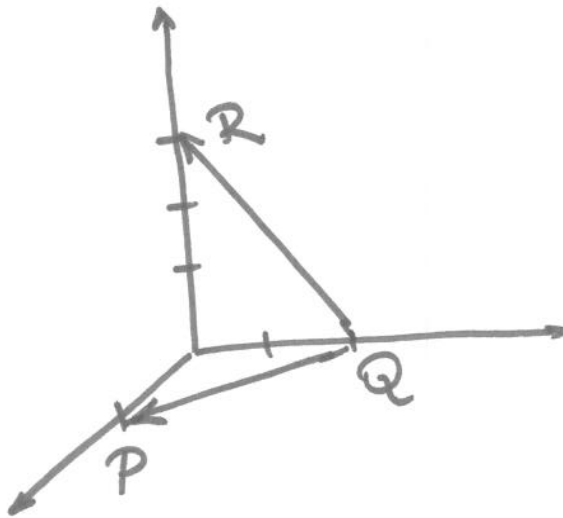MATH 20C, SECTION **   October 14, 2014

Quiz 1

1. (10 points) Let P, Q and R be the points at 1 on the x-axis, 2 on the y-axis and 3 on the z-axis, respectively. Express $\overrightarrow{QP}$ and $\overrightarrow{QR}$ in terms of $\hat{\mathbf{i}}, \hat{\mathbf{j}}$ and $\hat{\mathbf{k}}$.

$P = (1, 0, 0) \qquad Q = (0, 2, 0) \qquad R = (0, 0, 3)$

$\overrightarrow{QP} = \langle 1, -2, 0 \rangle = \langle 1, 0, 0 \rangle + (-2)\langle 0, 1, 0 \rangle = \hat{\imath} - 2\hat{\jmath}$

$\overrightarrow{QR} = \langle 0, -2, 3 \rangle = (-2)\langle 0, 1, 0 \rangle + 3\langle 0, 0, 1 \rangle = -2\hat{\jmath} + 3\hat{k}$

Good luck! ☺