

**MATH 205A,B - LINEAR ALGEBRA
WINTER 2013**

QUIZ 10

NAME:

Section:(Circle one) A(1 : 10) B(2 : 40)

Show **ALL** your work **CAREFULLY**.

Let

$$A = \begin{bmatrix} 1 & 1 \\ 2 & 2 \\ 0 & 2 \end{bmatrix} .$$

(a) Find an orthogonal basis for $\text{Col}A$.

(b) Find a QR decomposition for A , i.e., find a matrix Q and an upper triangular matrix R such that $A = QR$ and $Q^T Q = I$.