

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

QUIZ 5

NAME:

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

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

(a) Suppose $\det \begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix} = 3$. Find $\det \begin{bmatrix} a & d & g \\ 2b & 2e & 2h \\ c & f & i \end{bmatrix}$.

(b) Use row operations to find $\det A$ where

$$A = \begin{bmatrix} 1 & a & b+c \\ 1 & b & a+c \\ 1 & c & a+b \end{bmatrix}.$$

Is A invertible?