

# Quiz 7

Name : \_\_\_\_\_

SID : \_\_\_\_\_

1. Find the dimension of the subspace  $H$  inside of  $\mathbb{R}^3$  given by all vectors of the form

$$\begin{bmatrix} a + b + 2c \\ -a + b \\ b + c \end{bmatrix}$$

where  $a, b, c$  are any real numbers.

2. If  $A$  is a  $3 \times 5$  matrix, what is the largest possible dimension of the row space of  $A$ ? What is the largest possible dimension of the null space  $\text{Nul } A$ ?