

Math 302 QUIZ #1 Name:.....ID:.....

1. Is the set  $E = \{ \langle x_1, x_2, x_3 \rangle : x_1 + 2x_2 = 0, x_1, x_2, x_3 \in \mathbb{R} \}$  a subspace of  $\mathbb{R}^3$  ?  
if yes, provide a basis for it. What is its dimension ?

2. What about the set  $E = \{ \langle x_1, x_2, x_3 \rangle : x_1 + 2x_2 = 1, x_1, x_2, x_3 \in \mathbb{R} \}$  is it a subspace of  $\mathbb{R}^3$  ?