Name:_____ Math 260
Start Time:_____ Quiz 8 (35 min)
End Time:_____
Date:_____

1. (1, 1, 2 points) For each part below, prove or disprove that U is a subspace of $\mathbb{R}^3$:

a) $U = \{ (2s,\ s^2 + 1,\ -4s) \mid s \in \mathbb{R} \}$

b) $U = \{ (a, b, c) \mid 2a - bc = 0 \}$

(…this is a continuation of problem 1)

c) $U = \{ (a, b, c) \mid 4a + b - 3c = 0 \}$

2. (2, 2 points) Let $U = span(\ (1, -4, 3)\ ,\ (5, 2, -2)\ )$.

a) Is $(2, 14, -11) \in U$? If so, write (2, 14, -11) as a linear combination of (1, -4, 3) and (5, 2, -2). (Calculator OK)

b) Is $(13, 2, 5) \in U$? If so, write (13, 2, 5) as a linear combination of (1, -4, 3) and (5, 2, -2). (Calculator OK)

3. (2 points) Let $U = span(\ (4,1)\ ,\ (2,2)\ )$. Is $U = \mathbb{R}^2$?