

Math 3280 Worksheet 13: Vector spaces

Group members (2 to 4): \_\_\_\_\_

(1) Are the following sets subspaces of  $\mathbb{R}^3$  or not? If not, explain why.

(a)  $\{(x_1, x_2, x_3) \mid x_1x_2x_3 = 0\}$

(b)  $\{(x_1, x_2, 0) \mid x_1 = 5x_2\}$

(c) The span of the vectors  $(1, 2, 3)$ ,  $(4, 5, 6)$  and  $(7, 8, 9)$ .

- (2) Compute the Wronskian of  $x+2$ ,  $x-2$ , and  $x^2-4$  to determine whether the three functions are linearly dependent or not.