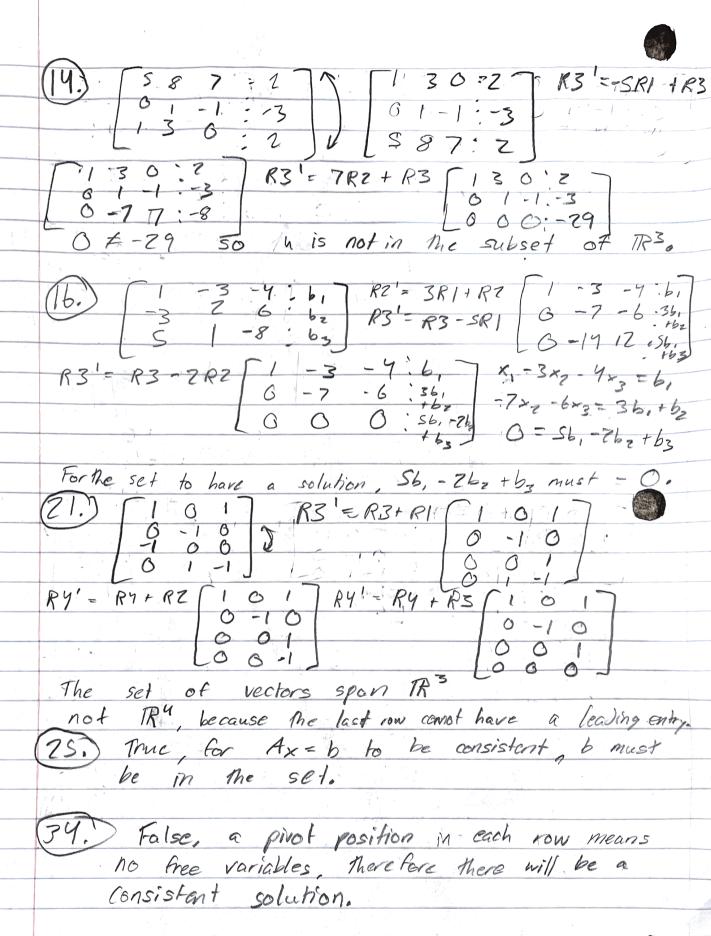
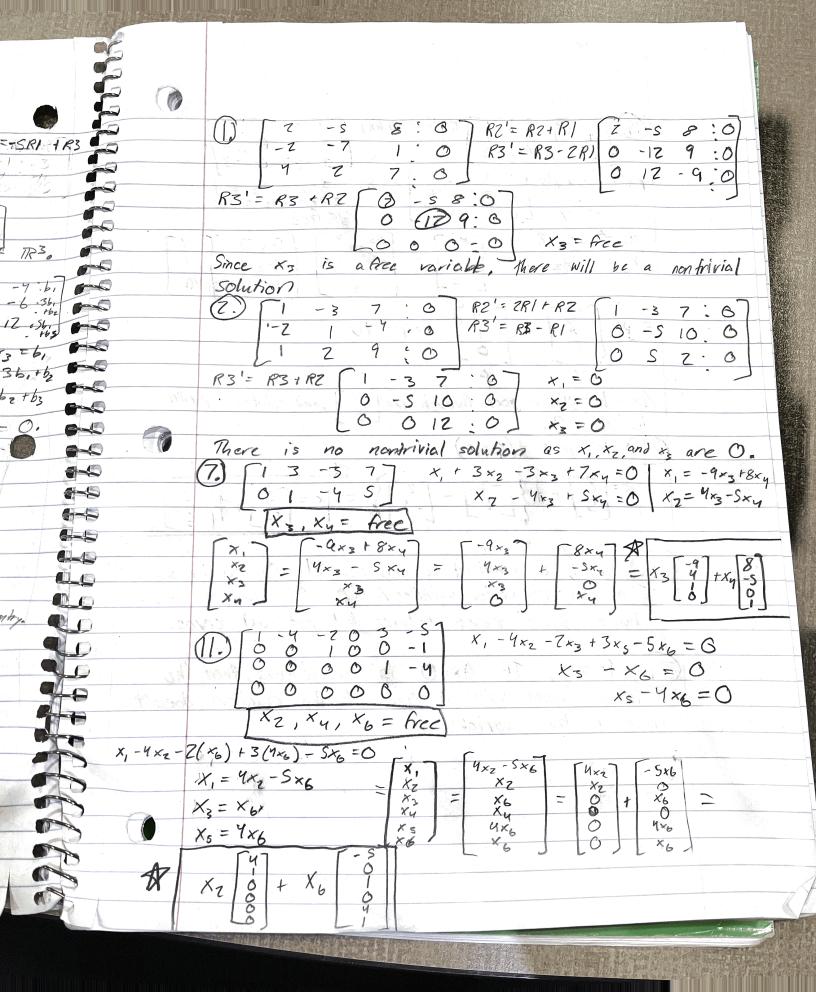
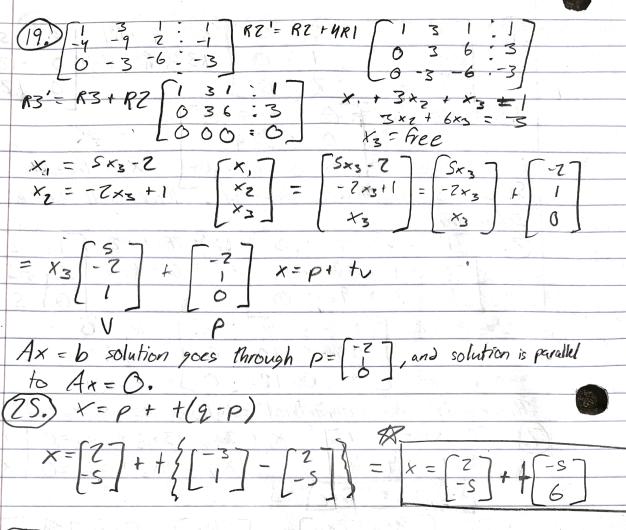
Homework 3 For matrix multiplication, The rows of the second matrix must match the columns of the first. Therefore, the System cannot be defined . * Undefined 6(1) + 5(-3) -9(1) + -3(-3) 7(1) + 6(-3) 3x1 -27 R3'= R312R1 X, + Zxz + 4x3 = - Z Xz + Sx3 = 7 Xz = -3 5×3 = 5 X3 = RZ = RZ + 3R1 $\frac{7}{5} \frac{1}{5} \frac{0}{1} \frac{1}{5} \frac{1}{1} \frac{7}{5} \frac{1}{1} \frac{7}{5} \frac{1}{1} \frac{7}{5} \frac{1}{1} \frac{1}{5} \frac{1}{1} \frac{1}$ R3'= R3 - R2 - Zx3 = - Z Does u= [4] live in Span { [3]. R2'= = R1+RZ [3-5:0] R3'= -3R1+R3 [0 %3:4] R3'= R3- RZ The system is consistent, so u is in the Span of A.

3

1







28.) False, a nontrivial solution of Ax=0 occurs when a nonzero vector satisfies Ax=0. Therefore, x can have some zero entries but not all zeros.

0

0

(31.) False, If Ax=0 is homogeneous, Men the there is a trivial solution even if the equation doesn't have a free variable.