

Curtis Section 4 #5,10 and Section 5 #3

Kolman Section 3.4 #5,23 and Section 3.5 #3,6,16

Additional problem:

Let  $V$  and  $W$  be vector spaces and let  $T : V \rightarrow W$  be a linear transformation.

(a) Show that if  $v_1, \dots, v_n \in V$  and  $T(v_1), \dots, T(v_n)$  are linearly independent in  $W$ , then  $v_1, \dots, v_n$  are linearly independent in  $V$ .

(b) Show that if  $v_1, \dots, v_n$  are linearly independent in  $V$  and  $T$  is one-to-one, then  $T(v_1), \dots, T(v_n)$  are linearly independent in  $W$ .