

THE KERNEL & RANGE OF A LINEAR TRANSFORMATION; ISOMORPHISM

Section 6.2

THEOREM

Old :

$$\text{rank}(A) + \text{nullity}(A) = n \leftarrow \text{number of columns in } A$$

New :

For a linear transformation $T : V \rightarrow W$,

$$\text{rank}(T) + \text{nullity}(T) = \dim(V) \quad \text{or}$$

$$\dim(\text{range}) + \dim(\text{kernel}) = \dim(\text{domain})$$