

Worksheet  
1/22/2020

Consider the linear map  $G : P_2(\mathbb{R}) \rightarrow P_2(\mathbb{R})$  given by  $G(u) = (x+1)u'$ .

(a) Find a basis of  $\text{null}(G)$ . What is the nullity of  $G$ ? Is  $G$  a monomorphism?

See a similar example in Lecture 7

(b) Find a basis of  $\text{range}(G)$ . What is the rank of  $G$ ? Is  $G$  an epimorphism ?