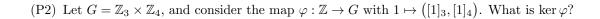
Fall 2019, Math 620: Week 4 Preliminary Problems Due: Thursday, September 26th, 2019 Isomorphism Theorems

Preliminary	problems.	These proble	ems should	be comp	pleted before	discussion on	Thursday.
(P1) Let $G =$	$\mathbb{Z}_3 \times \mathbb{Z}_3$, an	d consider th	ne map φ :	$\mathbb{Z} o G$ w	with $1 \mapsto ([1]_3)$	$_{3}, [1]_{3}$). What	is $\ker \varphi$?



(P3) State the first isomorphism theorem in its entirety.