Fall 2018, Math 320: Week 11 Preliminary Problems
Due: Thursday, November 8th, 2018
Ideals and Quotient Rings

Preliminary problems. These problems should be completed before discussion on Thursday.

(P1) Suppose R is a commutative ring and $I \subset R$. List the requirements for I to be an ideal.

(P2) Find all elements of the ideal

$$I = \langle [6]_8 \rangle = \{ [6]_8 \cdot r : r \in \mathbb{Z}_8 \}$$

in the ring $R = \mathbb{Z}_8$.