

Worksheet 2

Math 391, Abstract Algebra

Friday, October 2, 2020

0. Introduce yourself to your colleagues. Click on “Share Screen” and try out the Zoom whiteboard.
1. Find the greatest common divisor of 6 and 10.
2. Write out some numbers of the form $6m + 10n$ in a big grid, as we did in lecture for $18m + 30n$. At least let m go from -5 to 5 and n from -3 to 3 , but you can do more if you want.
3. Convince yourself that the set

$$S = \{6m + 10n : m, n \in \mathbb{Z}\}$$

is the same as the set of all even numbers. Why is every element of S an even number? Why is every even number an element of S ?

4. Suppose that $6m + 10n = 0$. What can you say about m and n ?
5. Challenge: Suppose that $6m + 10n = 2$. What can you say about m and n ?