

TITLE

AUTHOR

HOMEWORK 1

Section 1.1.

1. $\{5x - 1 : x \in \mathbb{Z}\} = \{\dots, -6, -1, 4, 9, 14, \dots\}$.
3. $\{x \in \mathbb{Z} : -2 \leq x < 7\} = \{-2, -1, 0, 1, 2, 3, 4, 5, 6\}$.
13. $\{x \in \mathbb{Z} : |6x| < 5\} = \{0\}$.
23. $\{3, 4, 5, 6, 7, 8\} = \{x \in \mathbb{Z} : 3 \leq x \leq 8\}$.

Section 1.2.

2. Suppose $A = \{\pi, e, 0\}$ and $B = \{0, 1\}$.
 - (a) $A \times B = \{(\pi, 0), (e, 0), (0, 0), (\pi, 1), (e, 1), (0, 1)\}$
 - (b) $B \times A = \{(0, \pi), (0, e), (0, 0), (1, \pi), (1, e), (1, 0)\}$
 - (d) $B \times B = \{(0, 0), (0, 1), (1, 0), (1, 1)\}$