## CSCI-C 241 Mini-HW #5 Instructor: Wennstrom

Assigned Tuesday, September 18th, 2018 Due Thursday, September 20th, 2018

For this assignment, use the following definitions:

$$A = \{-2, 0, 1, 2\}$$

$$B = \{0, 2, 4, 6, 8\}$$

$$C = \{x \mid x \in \mathbb{N} \land x \le 5\}$$

$$D = \{x \mid x \in \mathbb{N} \land x + 2 \le 5\}$$

$$E = \{x + 2 \mid x \in \mathbb{N} \land x \le 5\}$$

$$F = \{a + b \mid a \in A \land b \in B\}$$

Remember that  $\mathbb{N} = \{0, 1, 2, 3, \ldots\}$  is the set of natural numbers,  $\mathbb{Z}$  is the set of integers  $\{\ldots, -2, -1, 0, 1, 2, \ldots\}$ ,  $\mathbb{Q}$  is the set of rational numbers  $\left\{\frac{p}{q} \mid p \in \mathbb{Z} \land q \in \mathbb{Z} \land q \neq 0\right\}$ , and  $\mathbb{R}$  is the set of real numbers (anything on the number line).

- 1. Write each of the following in set-list notation.
  - (a) C
  - (b) *D*
  - (c) E
  - (d) F
  - (e)  $A \cap B$
  - (f)  $A \cup B$
  - (g)  $A \setminus B$