

For this assignment, use the following definitions:

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

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

$$C = \{x \mid x \in \mathbb{N} \wedge x \leq 5\}$$

$$D = \{x \mid x \in \mathbb{N} \wedge x + 2 \leq 5\}$$

$$E = \{x + 2 \mid x \in \mathbb{N} \wedge x \leq 5\}$$

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

Remember that $\mathbb{N} = \{0, 1, 2, 3, \dots\}$ is the set of natural numbers, \mathbb{Z} is the set of integers $\{\dots, -2, -1, 0, 1, 2, \dots\}$, \mathbb{Q} is the set of rational numbers $\left\{\frac{p}{q} \mid p \in \mathbb{Z} \wedge q \in \mathbb{Z} \wedge q \neq 0\right\}$, 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) $A \setminus B$