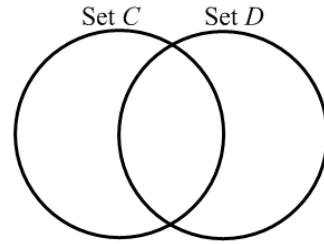


Working with Sets and Venn Diagrams

1. Given $C = \{0, 1, 3, 5\}$ and $D = \{-5, -3, -1, 0, 1\}$, find:

- $C \cup D$
- $C \cap D$
- True or False: $-3 \in C$
- True or False: $2 \notin D$
- Complete the Venn Diagram with the elements of sets C and D .



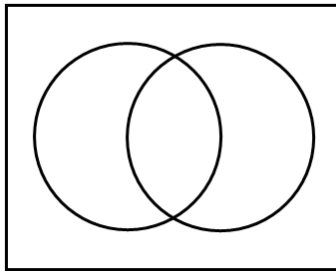
2. If $E = \{2, 4, 6, 8\}$ and $F = \{1, 3, 5, 7\}$ find:

- $E \cup F$
- $E \cap F$

3. Given $G = \{11, 12, 13\}$ and $H = \{10, 11, 12, 13, 14, 15\}$, find:

- $G \cup H$
- $G \cap H$
- Since all of the elements of set G are in set H , we say that _____.

4. Create a Venn Diagram if $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$, $A = \{2, 4, 6, 8\}$, and $B = \{1, 2, 3, 4, 5\}$.



Use the Venn Diagram to answer the following questions:

- What is $A \cap B$?
- What is $A \cup B$?
- What is the complement of set A ?
- What are all the ways to write the complement of set A ?

5. Let $U = \{\text{positive even integers}\}$,
 $A = \{2, 4, 8, 16\}$, and $B = \{6, 8, 10, 12, 14, 16\}$.

- Find $A \cup B$
- Find $A \cap B$
- Find $(A \cap B)'$
- Is $A \subset B$?

6. Given $U = \{10, 20, 30, 40, 50, 60\}$,
 $X = \{10\}$, and $Y = \{10, 40, 60\}$.

- What is $X \cup Y$?
- What is $X \cap Y$?
- What is $(X \cap Y)^c$?
- What is $\overline{(X \cup Y)}$?

7. Given:
 Set $N = \{(3, -8), (5, -4), (7, 0)\}$
 Set $P = \{(7, -2), (6, -3), (5, -4), (4, -5)\}$
 What is the intersection of sets N and P ?

8. Given $U = \{\text{negative integers}\}$, $S = \{-3, -2, -1\}$, and $T = \{-4, -5, -6\}$.
- What is $S \cap T$?
 - What is $\sim S$?