

Given: $U = \{x \mid x \in \mathbb{Z} \text{ and } 0 \leq x < 10\}$, $A = \{2, 3, 4, 5\}$, $B = \{2, 4, 6, 8\}$, and $C = \{1, 3, 5, 7, 9\}$.

1. Write U as a set in roster notation:

Find each of the following:

2. A'

3. $A \cup B$

4. $B \cap C$

5. $|C|$

6. $B - A$

7. $A \oplus B$

True or False. If False, rewrite as a true statement.

8. $\{2\} \in A$ _____

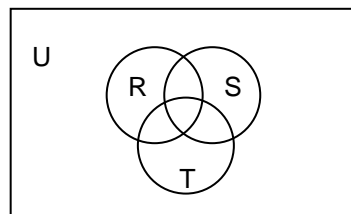
9. A and C are disjoint. _____

10. $4 \in A \cap B$ _____

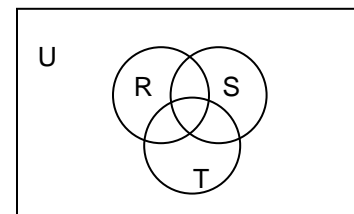
Venn Diagrams

Shade each of the following:

11. $R \cup (S \cap T)$



12. $S' \cap T$



Multiplicity

Given: $A = \{3 \cdot a, 2 \cdot b, 5 \cdot c\}$ and $B = \{4 \cdot a, 2 \cdot b, 1 \cdot c\}$

Find each of the following:

13. $A \cup B$

14. $A \cap B$

15. $A + B$

16. $A - B$

17. $|A|$

18. $B - A$

Sets of Numbers

19. What do you know about the sets A and B if $A \cup B = A$?

20. What can be said about sets A and B if $A - B = A$?