

Working with Wets Assignment

Write each set in roster form.

1. $A = \{x \mid x \text{ is a positive multiple of } 2 \text{ and } x < 18\}$
2. $B = \{x \mid x \text{ is an integer and } x \geq 12\}$

Write each set in set-builder notation.

3. $L = \{11, 12, 13, 14, \dots\}$
4. $M = \{5, 10, 15, 20, 25\}$
5. $N = \{2, 3, 5, 7, 11, 13, 17, 19\}$
6. $P = \{\dots, -2, -1, 0, 1, 2, \dots\}$
7. $K = \{\dots, -5, -3, -1, 1, 3, 5, \dots\}$

Write the solutions of each inequality in set-builder notation.

8. $2x + 6 < 22$
9. $4x + 3 > 63$
10. $12 - 7x \geq 60$

List all the subsets of each set.

11. $\{0, 1, 5\}$
12. $\{x, y, z\}$

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13. Given $A \subseteq B$, $B = \{1, 2, 3, 4, 5\}$, and $A = \{2, 3\}$. Find A' .

14. Given $P \subseteq U$, $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$, and $P = \{2, 4, 6, 8\}$. Find P' .

15. Suppose $U = \{0, 2, 4, 6, 8, 10, 12, 14\}$ is the universal set and $A = \{2, 4, 6\}$. What is A' ?

16. Suppose $U = \{x \mid x \text{ is a real number}, x < -3\}$ is the universal set and $A = \{x \mid x \text{ is a real number}, x < -10\}$. What is A' ?

Suppose $U = \{0, 1, 2, 3, 4, 5, 6\}$, $A = \{2, 5, 6\}$ and $B = \{1, 2, 6\}$. Tell whether each statement is true or false. Explain.

17. $B \subseteq A$

18. $U \subseteq B$

19. $\emptyset \subseteq B$

20. $A \subseteq U$