

## Working with Wets Bell Work

Write each set in roster form.

1.  $C = \{n \mid n \text{ is an odd integer, } n > 0\}$
2.  $D = \{n \mid n \text{ is an even prime}\}$

Write each set in set-builder notation.

3.  $G = \{-3, -2, -1, 0, 1, \dots\}$
4.  $H = \{3, 6, 9, 12\}$
5.  $J = \{2, 4, 6, 8, 10\}$

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

6.  $-(3x + 6) \leq -12$
7.  $-2(x - 4) > -10 - 3x$

List all the subsets of each set.

8.  $\{a, b, c\}$
9.  $\{0, 3, 6\}$
10.  $\{\text{car, bus, van}\}$
11.  $\{-5, 5\}$

Suppose  $U = \{1, 2, 4, 7, 12, 16\}$ ,  $A = \{2, 4, 7\}$  and  $B = \{1, 2, 4\}$ . Tell whether each statement is true or false. Explain.

12.  $A \subseteq U$
13.  $U \subseteq B$
14.  $B \subseteq A$
15.  $\emptyset \subseteq B$

# Working with Wets Bell Work

## ANSWER

Write each set in roster form.

1.  $C = \{n \mid n \text{ is an odd integer, } n > 0\}$   $C = \{1, 3, 5, 7, 9, \dots\}$

2.  $D = \{n \mid n \text{ is an even prime}\}$   $D = \{2\}$

Write each set in set-builder notation.

3.  $G = \{-3, -2, -1, 0, 1, \dots\}$   $G = \{x \mid x \text{ is an integer}\}$

4.  $H = \{3, 6, 9, 12\}$   $H = \{x \mid x \text{ is a positive factor of 3 and } x < 15\}$

5.  $J = \{2, 4, 6, 8, 10\}$   $J = \{x \mid x \text{ is an even positive number and } x < 11\}$

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

$$\begin{aligned}
 6. \quad & -(3x + 6) \leq -12 \\
 & -3x - 6 \leq -12 \\
 & -3x - 6 + 6 \leq -12 + 6 \\
 & -3x \leq -6 \\
 & \frac{-3x}{-3} \geq \frac{-6}{-3} \\
 & x \geq 2 \\
 & \{x \mid x \geq 2\}
 \end{aligned}$$

$$\begin{aligned}
 7. \quad & -2(x - 4) > -10 - 3x \\
 & -2x + 8 > -10 - 3x \\
 & -2x + 3x + 8 > -10 - 3x + 3x \\
 & x + 8 > -10 \\
 & x + 8 - 8 > -10 - 8 \\
 & x > -18 \\
 & \{x \mid x > -18\}
 \end{aligned}$$

List all the subsets of each set.

8.  $\{a, b, c\}$   $\{\}, \{a\}, \{b\}, \{c\}, \{a, b\}, \{b, c\}, \{a, c\}, \{a, b, c\}$

9.  $\{0, 3, 6\}$   $\{\}, \{0\}, \{3\}, \{6\}, \{0, 3\}, \{3, 6\}, \{0, 6\}, \{0, 3, 6\}$

10.  $\{\text{car, bus, van}\}$   $\{\}, \{\text{car}\}, \{\text{bus}\}, \{\text{van}\}, \{\text{car, bus}\}, \{\text{bus, van}\}, \{\text{car, van}\}, \{\text{car, bus, van}\}$

11.  $\{-5, 5\}$   $\{\}, \{-5\}, \{5\}, \{-5, 5\}$

Suppose  $U = \{1, 2, 4, 7, 12, 16\}$ ,  $A = \{2, 4, 7\}$  and  $B = \{1, 2, 4\}$ . Tell whether each statement is true or false. Explain.

12.  $A \subseteq U$  **TRUE**  $A$  is the subset of  $U$

13.  $U \subseteq B$  **FALSE**  $B \subseteq U$

14.  $B \subseteq A$  **FALSE**  $B$  is not a subset of  $A$

15.  $\emptyset \subseteq B$  **TRUE**  $\emptyset$  is always a subset of any given set