

## Working with Wets Exit Quiz

Write each set in roster form and in set-builder notation.

1.  $R$  is the set of integers that are greater than  $-4$ .
2.  $S$  is the set of odd numbers that are less than  $6$ .

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

3.  $-2(x - 7) \leq -14 + 2x$
4.  $-3(2x + 4) + 1 > -13$

5. Let the universal set  $U$  and set  $B$  be defined below. What are the elements of the complement of  $B$ ? Write your answer in roster form and in set-builder notation.

$U = \{\text{all the months in calendar year}\}$

$B = \{\text{all months that have 31 days}\}$

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## ANSWER

Write each set in roster form and in set-builder notation.

1.  $R$  is the set of integers that are greater than  $-4$ .

$$R = \{-3, -2, -1, 0, 1, 2, 3, \dots\} \quad R = \{x | x \text{ is an integer and } x > -4\}$$

2.  $S$  is the set of odd numbers that are less than 6.

$$S = \{1, 3, 5\} \quad S = \{x | x \text{ is an odd number and } x < 6\}$$

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

$$\begin{aligned}
3. \quad & -2(x - 7) \leq -14 + 2x \\
& -2x + 14 \leq -14 + 2x \\
& -2x + 2x + 14 \leq -14 + 2x + 2x \\
& 14 \leq -14 + 4x \\
& 14 + 14 \leq -14 + 14 + 4x \\
& 28 \leq 4x \\
& \frac{28}{4} \leq \frac{4x}{4} \\
& 7 \leq x \\
& \{x | 7 \leq x\}
\end{aligned}$$

$$\begin{aligned}
4. \quad & -3(2x + 4) + 1 > -13 \\
& -6x - 12 + 1 > -13 \\
& -6x - 11 > -13 \\
& -6x - 11 + 11 > -13 + 11 \\
& -6x > -2 \\
& \frac{-6x}{-6} < \frac{-2}{-6} \\
& x < \frac{1}{3} \\
& \left\{x \mid x < \frac{1}{3}\right\}
\end{aligned}$$

5. Let the universal set  $U$  and set  $B$  be defined below. What are the elements of the complement of  $B$ ? Write your answer in roster form and in set-builder notation.

$$U = \{\text{all the months in calendar year}\}$$

$$B = \{\text{all months that have 31 days}\}$$

$$B = \{\text{January, March, May, July, August, October, December}\}$$

$$B' = \{\text{February, September, April, June, November}\}$$