

Algebra 2: Homework 3

- The solution set of $x + 8 = 7$ is $\{ \}$ when the domain is the set of
 - integers
 - whole numbers
 - negative integers
 - rational numbers
- For which domain will the solution set of $4x + 1 < 13$ be $\{1, 2\}$?
 - integers
 - natural numbers
 - whole numbers
 - rational numbers
- The solution set of $3x - 2 = 5$ is not empty when the domain is the set of
 - integers
 - natural numbers
 - whole numbers
 - rational numbers

In 4 and 5, list the elements of each solution set, or indicate that the solution set is the empty set.

4. $\{x \mid 3(4 + x) \leq 27 \text{ and } x \in \text{whole numbers}\}$

5. $\{y \mid 2y + 5 = 8 \text{ and } y \in \mathbb{Q}\}$

In 6 – 8, state the solution set and graph the solution set on a number line. Assume that the domain is \mathbb{R} .

6. $2y - 3(2y - 3) = y + 29$

7. $8 + 3y > 10 - 2y$

8. $x - 2(x - 2) \leq 2$

In 9 and 10, name the property of real numbers that is illustrated by the given equation.

9. $\frac{3}{7} \cdot \frac{7}{3} = 1$

10. $\frac{3}{7} + 0 = \frac{3}{7}$