

Name: \_\_\_\_\_

Date: \_\_\_\_\_ Period: \_\_\_\_\_

**Directions:** Name the property of equality that justifies each statement.

\_\_\_\_\_ 1. If  $a = 2b$ , then  $a - c = 2b - c$

\_\_\_\_\_ 2.  $x = x$

\_\_\_\_\_ 3.  $3(p - 7) = 3p - 21$

\_\_\_\_\_ 4. If  $-7k = -42$ , then  $k = 6$

\_\_\_\_\_ 5. If  $m + n = 15$  and  $n = 2$ , then  $m + 2 = 15$

\_\_\_\_\_ 6. If  $\frac{x}{4} = -5$ , then  $x = -20$

\_\_\_\_\_ 7. If  $w^2 = 2x$  and  $2x = y$ , then  $w^2 = y$

\_\_\_\_\_ 8. If  $c - 9 = -1$ , then  $c = 8$

\_\_\_\_\_ 9. If  $n = -3$ , then  $-3 = n$

- A. Addition Property of Equality
- B. Subtraction Property of Equality
- C. Multiplication property of Equality
- D. Division Property of Equality
- E. Distributive Property
- F. Substitution Property
- G. Reflexive Property
- H. Symmetric Property
- I. Transitive Property

**Directions:** Complete each proof using the properties of equality. Not all rows may be used.

10. **Given:**  $-8(x - 3) = -32$ ; **Prove:**  $x = 7$

Statements	Reasons

11. **Given:**  $-16 = \frac{m}{5} - 18$ ; **Prove:**  $m = 10$

Statements	Reasons

