

Review: ALGEBRAIC PROPERTIES

NAME: _____

DATE: _____

PERIOD: _____

PART 1: Property Review

Match each statement with its property.

1. Subtraction Property of Equality

A. If $y = x$ and $x = 3$, then $y = 3$

2. Division Property of Equality

B. If $2(x + 4) = 12$, then $2x + 8 = 12$

3. Reflexive Property

C. If $x - 6 = 90$, then $x - 6 + 6 = 90 + 6$

4. Symmetric Property

D. If $\frac{2-x}{6} = 10$, then $2-x = 60$

5. Substitution Property

E. If $3 = x$, then $x = 3$

6. Multiplication Property of Equality

F. If $-2x = 8$, then $x = -4$

7. Distributive Property

G. If $4x + 19 = 2x$, then $4x - 4x + 19 = 2x - 4x$

8. Addition Property of Equality

H. $x = x$

9. Transitive Property

I. If $x = -5$ and $3x + 2 = y$, then $3(-5) + 2 = y$

PART 2: Solve each equation and justify each step.

10. $7(x+9) = 8(x-3)$

Statements	Reasons

11. $9x - 3(x-5) = 51$

Statements	Reasons

12. $7x + 4(x - 1) = 3(x + 4)$

Statements

Reasons

13. $\frac{3}{4}(x + 12) + \frac{1}{2}(x + 6) = -18$

Statements

Reasons

14. $\frac{10-5x}{8} = -4+2x$

Statements

Reasons

15. $\frac{5}{2}(6x-\frac{1}{2}) = 13x+2$

Statements

Reasons
