

Name: _____

Score: _____

Balancing Equation

Sheet 1

Find the value of x to balance the equation. Identify the property used.

1) $5 + 9 = x + 5$ $x =$ _____ Property: _____	2) $7 + (4 + x) = (7 + 4) + 8$ $x =$ _____ Property: _____
3) $3 \times (4 \times 6) = (x \times 4) \times 6$ $x =$ _____ Property: _____	4) $x + 3 = 3 + 4$ $x =$ _____ Property: _____
5) $(11 + 2) + 8 = 11 + (x + 8)$ $x =$ _____ Property: _____	6) $3 \times x = 7 \times 3$ $x =$ _____ Property: _____
7) $9 + 7 = 7 + x$ $x =$ _____ Property: _____	8) $12 \times (x \times 4) = (12 \times 5) \times 4$ $x =$ _____ Property: _____
9) $8 + (5 + x) = (8 + 5) + 7$ $x =$ _____ Property: _____	10) $4 \times 6 = 6 \times x$ $x =$ _____ Property: _____
11) $7 + x = 14 + 7$ $x =$ _____ Property: _____	12) $(8 \times 3) \times 10 = 8 \times (3 \times x)$ $x =$ _____ Property: _____
13) $x \times 12 = 12 \times 4$ $x =$ _____ Property: _____	14) $x + (13 + 9) = (2 + 13) + 9$ $x =$ _____ Property: _____

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Answer key**Balancing Equation**

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1) $5 + 9 = x + 5$ $x = 9$ Property: Commutative property of addition	2) $7 + (4 + x) = (7 + 4) + 8$ $x = 8$ Property: Associative property of addition
3) $3 \times (4 \times 6) = (x \times 4) \times 6$ $x = 3$ Property: Associative property of multiplication	4) $x + 3 = 3 + 4$ $x = 4$ Property: Commutative property of addition
5) $(11 + 2) + 8 = 11 + (x + 8)$ $x = 2$ Property: Associative property of addition	6) $3 \times x = 7 \times 3$ $x = 7$ Property: Commutative property of multiplication
7) $9 + 7 = 7 + x$ $x = 9$ Property: Commutative property of addition	8) $12 \times (x \times 4) = (12 \times 5) \times 4$ $x = 5$ Property: Associative property of multiplication
9) $8 + (5 + x) = (8 + 5) + 7$ $x = 7$ Property: Associative property of addition	10) $4 \times 6 = 6 \times x$ $x = 4$ Property: Commutative property of multiplication
11) $7 + x = 14 + 7$ $x = 14$ Property: Commutative property of addition	12) $(8 \times 3) \times 10 = 8 \times (3 \times x)$ $x = 10$ Property: Associative property of multiplication
13) $x \times 12 = 12 \times 4$ $x = 4$ Property: Commutative property of multiplication	14) $x + (13 + 9) = (2 + 13) + 9$ $x = 2$ Property: Associative property of addition