Algebra: Expressions and Multiplication Properties

Properties of Multiplication		
Commutative Property	$a \times b = b \times a$	$6 \times 7 = 7 \times 6$
Associative Property	$a \times (b \times c) = (a \times b) \times c$	$2 \times (3 \times 5) = (2 \times 3) \times 5$
Identity Property	$a \times 1 = a$	$8 \times 1 = 8$
Zero Property	$a \times 0 = 0$	$4 \times 0 = 0$

Write an expression for each.

1. a number divided by 6

2. a number multiplied by 9

3. a number increased by 7

_____

_____

_____

4. twelve times a number

5. 55 more than a number

6. a number divided by 15

_____

_____

_____

Evaluate. Tell which property you used.

7. $5 \times (20 \times 12)$

8. $35 \times 6 \times 0$

9. $25 \times 7 \times 4$

_____

_____

_____

10. $1 \times 19 \times 2$

11. $10 \times 13 \times 10$

12. $(9 \times 5) \times 2$

_____

_____

_____

Evaluate each expression, given $a = 6$, $b = 3$, and $c = 4$.

13. $a \times (b + c)$ _____

14. $(a \times b) + c$ _____

Problem Solving

15. Alan and three friends split the cost of a gift. Write an expression that shows how much each person contributed for the gift. Then use the expression to determine how much Alan contributed if the gift cost $48.

Show Your Work