PROPERTIES OF ADDITION

COMMUTATIVE PROPERTY: The order in which two numbers are added does not change the sum. $a + b = b + a$

ASSOCIATIVE PROPERTY: The way three numbers are grouped when adding does not change the sum. $(a + b) + c = a + (b + c)$

IDENTITY PROPERTY: The sum of a number and 0 is the number. $a + 0 = a$

PROPERTIES OF MULTIPLICATION

COMMUTATIVE PROPERTY: The order in which two numbers are multiplied does not change the product. $ab = ba$

ASSOCIATIVE PROPERTY: The way you group three numbers when multiplying does not change the product. $(ab)c = a(bc)$

IDENTITY PROPERTY: The product of a number and 1 is the number. $1 \cdot a = a$

MULTIPLICATIVE PROPERTY OF ZERO The product of a number and 0 is 0. $0 \cdot a = 0$

Name the property shown by the statement.

1. $0 + 8 = 8$ Identity prop. of addition

2. $5 + 11 = 11 + 5$ Commutative prop. of addition

3. ~~7 · 7 = 0~~

4. $3 + (7 + 1) = (3 + 7) + 1$
   Associative Prop. of addition

Name the property shown by the statement.

5. $7 \cdot 32 = 32 \cdot 7$ Commutative Prop. of multi.

6. $(6a)b = 6(ab)$ Associative Prop. of multi.

7. $8 \cdot 1 = 8$ Identity Prop. of multi.

8. $0 = a \cdot 0$
   Multiplicative Prop. of Zero

Name the property shown by the statement.

9. $6 + a = a + 6$ Commutative Prop. of add.

10. $z \cdot 1 = z$ Identity Prop. of multi.

11. $0 + xy = xy + 0$ Commutative Prop. of add.

12. $21 + 0 = 21$ Identity Prop. of add.

Name the property shown by the statement.

13. $7ab = 7ba$ Commutative prop. of multi.

14. $4(bc) = (4b)c$ Associative Prop. of multi.

15. $9a + b = b + 9a$ Commutative Prop. of add.

16. $(4 + 7)0 = 0$ Multiplicative Prop. of Zero