**Homework: Identity, Inverse, and Equality Properties**

**Give an example of the property named.**

1. additive identity:

2. substitution property:

3. symmetric property:

4. multiplicative identity property:

5. reflexive property:

6. transitive property:

7. multiplicative property of zero:

8. additive inverse property:

9. multiplicative inverse property:

10. zero product property:

**Name the property illustrated by each statement.**

1. $5 \cdot 1 = 5$

2. If $a + b = 9$, then $9 = a + b$

3. $(3 + 5) + 4 = 8 + 4$

4. $6 \cdot 0 = 0$

5. $a + 0 = a$

6. $2 \cdot \frac{1}{2} = 1$

7. $5x = 5x$

8. If $xy = 0$, then $x = 0$ and/or $y = 0$

9. $7 + (-7) = 0$

11. $5(2 + 4) = 5(6)$

12. $2x + 7 = 2x + 7$

13. $abc = 1abc$

14. If $8 = x$, then $x = 8$

15. $9 + 0 = 9$

16. $\frac{3}{4} \cdot 0 = 0$

17. If $10 = 6 + 4$ and $6 + 4 = 12 - 2$, then $10 = 12 - 2$

**Evaluate the expression and name the property used for each step.**

18. $9(8 + 2) - 45 \cdot 2$

19. $12 + 3(4^2 - 16)$