Identity Property with Algebra

Directions: Fill in the blank to make each equation true using the **Identity Property of Addition** (adding 0 keeps the expression the same).

1) $x + 0 =$ ___

2) ___ $+ 0 = m$

3) $0 + y =$ ___

4) $0 + a + b =$ ___ $+ b$

5) $p + 0 + q =$ ___ $+ q$

6) $0 + n + 5 =$ ___ $+ 5$

Directions: Fill in the blank to make each equation true using the **Identity Property of Multiplication** (multiplying by 1 keeps the expression the same).

7) $y \times 1 =$ ___

8) ___ $\times 1 = t$

9) $1 \times c =$ ___

10) $(x + 2) \times 1 =$ ___

11) $1 \times (a + b) =$ ___

12) $(m \times 1) \times 1 =$ ___

Directions: Simplify each expression below. Remove any terms that use the **identity property**.

13) $3a + 0 + b =$ _____

14) $5 + 0 + c =$ _____

15) $2x + y + 0 =$ _____

16) $1 \times (4m + n) =$ _____

17) $(k + 0) + 2 =$ _____

18) $(7p \times 1) + 0 =$ _____

Directions: Circle or underline the part of the equation that uses the **identity property**, then simplify or answer the question.

19) $(6 + 0) \times 2 = 12 \rightarrow$ Which part shows the identity property?

20) $4 \times (3 \times 1) = 12 \rightarrow$ Which part shows the identity property?

21) $(x + 0) + 5 = x + 5 \rightarrow$ Simplify.

22) $(7 \times 1) + 9 = 16 \rightarrow$ Simplify.

23) $(0 + m) \times 3 = 3m \rightarrow$ Which part shows the identity property?

24) $(a + 0) \times (b \times 1) = ? \rightarrow$ Simplify fully.