

Homework: Commutative and Associative Properties

Match the properties to the expressions. Name all that fit the property.

1. commutative property over addition: _____

a. $2 + 6 + 8 = 2 + 8 + 6$

2. commutative property over multiplication: _____

b. $4 \cdot (5 \cdot x) = (4 \cdot 5) \cdot x$

c. $(5 + 4) + 6 = (4 + 5) + 6$

3. associative over addition _____

d. $(5x + 4y) + 9m = 5x + (4y + 9m)$

e. $(6 + 2) + 8 = 8 + (6 + 2)$

4. associative over multiplication _____

f. $8 \cdot (3 \cdot 4) = (8 \cdot 3) \cdot 4$

g. $5 \cdot (4 \cdot 6) = 5 \cdot (6 \cdot 4)$

h. $(3x) + (cd) = (3x) + (dc)$

i. $(3 + 6) + 8 = 3 + (6 + 8)$

j. $5 \cdot 2 \cdot 6 = 5 \cdot 6 \cdot 2$

Review of all properties:

Simplify. Show steps and name the property used.

1. $3x + 5y + 8x + 2y$

2. $5(3x + 4) + 6x$

3. $2x + 3(5x + 4) + 3x$

4. $5 \cdot 0$

5. $\frac{1}{2} \cdot 2 \cdot 5$

6. $3(4x + 5) + 2(7x + 3)$

7. $15 - (3 \cdot 5)$

8. $5 \cdot 13 \cdot 2$

9. $6x + 4(3y + 2x) + 5y$

10. $15 + 7 + 6 + 3 + 4 + 5$