

Practice

Commutative and Associative Properties

Name the property shown by each statement.

1. $43 + 28 = 28 + 43$

2. $(9 + 5) + 4 = 9 + (5 + 4)$

3. $(8 \cdot 7) \cdot 11 = 8 \cdot (7 \cdot 11)$

4. $12 \cdot 3 \cdot 6 = 3 \cdot 12 \cdot 6$

5. $(b + 22) + 3 = b + (22 + 3)$

6. $c \cdot d = d \cdot c$

7. $2n + 13 = 13 + 2n$

8. $15 \cdot (2g) = (15 \cdot 2) \cdot g$

Simplify each expression. Identify the properties used in each step.

9. $(m + 7) + 2$

10. $4 \cdot x \cdot 8$

11. $12 + k + 5$

12. $(y \cdot 3) \cdot 12$

13. $13 \cdot (3h)$

14. $7 + 2q + 4$

15. $6n + (9 + 4) + 5$

16. $(7 + p + 22)(9 \div 9)$

17. State whether the statement *Subtraction of whole numbers is associative* is *true* or *false*. If false, provide a counterexample.