

Property Detective

Use your detective skills to solve these cases using the properties of multiplication!

Case 1: The Commutative Property (Order Property)

Clue: $a \times b = b \times a$

1. If $4 \times 6 = 24$, then $6 \times 4 = \underline{\hspace{2cm}}$.

2. $7 \times 3 = 3 \times \underline{\hspace{2cm}}$.

3. $9 \times 5 = \underline{\hspace{2cm}} \times 9$.

Case 2: The Associative Property (Grouping Property)

Clue: $(a \times b) \times c = a \times (b \times c)$

4. $(2 \times 3) \times 4 = 2 \times (3 \times \underline{\hspace{2cm}})$.

5. $(5 \times 2) \times 6 = \underline{\hspace{2cm}}$.

6. $4 \times (5 \times 1) = \underline{\hspace{2cm}}$.

Case 3: The Identity Property (Property of 1)

Clue: $a \times 1 = a$

7. $15 \times 1 = \underline{\hspace{2cm}}$.

8. $\underline{\hspace{2cm}} \times 1 = 27$.

9. $1 \times 100 = \underline{\hspace{2cm}}$.

Case 4: The Zero Property

Clue: $a \times 0 = 0$

10. $45 \times 0 = \underline{\hspace{2cm}}$.

11. $\underline{\hspace{2cm}} \times 12 = 0$.

12. $0 \times 5,000 = \underline{\hspace{2cm}}$.

Case 5: Mixed Cases

13. Which property says $8 \times 5 = 5 \times 8$? $\underline{\hspace{4cm}}$

14. $2 \times (5 \times 4) = (2 \times 5) \times 4$ is an example of the $\underline{\hspace{4cm}}$ property.

15. $99 \times \underline{\hspace{2cm}} = 99$.

Answer Key

1. 24 | 2. 7 | 3. 5 | 4. 4 | 5. 60 | 6. 20 | 7. 15 | 8. 27 | 9. 100 | 10. 0 | 11. 0 | 12. 0 | 13.
Commutative | 14. Associative | 15. 1