REVIEW: Commutative and Associative Properties

Name _____

Key Concept and Vocabulary

Commutative Property

$1 + 3 = 3 + 1$ *(Addition)*

$2 + (3 + 5) = (2 + 3) + 5$ *(Addition)*

Associative Property

Commutative Property

$2 \cdot 5 = 5 \cdot 2$ *(Multiplication)*

$2 \cdot (3 \cdot 5) = (2 \cdot 3) \cdot 5$ *(Multiplication)*

Associative Property

Skill Examples

1. $3 + 6 = 6 + 3$
2. $15 + (5 + 3) = (15 + 5) + 3$
3. $4 \cdot 6 = 6 \cdot 4$
4. $2 \cdot (3 \cdot 5) = (2 \cdot 3) \cdot 5$

Application Example

5. Use the above properties and mental math to find the sum: $97 + 28 + 3 + 2$.

$97 + 28 + 3 + 2 = (97 + 3) + (28 + 2)$

$= 100 + 30$

$= 130$

The sum is 130.

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Check your answers at BigIdeasMath.com.

Identify the property. Then find the sum or product.

6. $11 + 36 = 36 + 11$ _____
7. $10 \cdot 4 = 4 \cdot 10$ _____
8. $5 \cdot (4 \cdot 2) = (5 \cdot 4) \cdot 2$ _____
9. $2 + (3 + 5) = (2 + 3) + 5$ _____
10. $2 + 3 + 4 = 2 + 4 + 3$ _____
11. $5 \cdot 2 \cdot 3 = 2 \cdot 5 \cdot 3$ _____

Show how you can use the Commutative and Associative Properties to find the sum or product using mental math.

12. $34 + 47 + 16 =$ _____
13. $5 \cdot 13 \cdot 2 =$ _____
14. $15 + 13 + 27 + 35 =$ _____
15. $9 \cdot 5 \cdot 3 \cdot 2 =$ _____

16. **COMMUTATIVITY** Describe two real-life activities that are *not* commutative. In other words, you get different results if you switch the order in which the activities are performed.

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