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eHelp

Expressions and Equations

Lesson 5

Algebra: Properties

Guided Practice

Determine whether the two expressions are equivalent. If so, tell what property is applied. If not, explain why. (Examples 1–4)

1. $(35 + 17) + 43$ and $35 + (17 + 43)$

2. $(25 - 9) - 5$ and $25 - (9 - 5)$

3. 59×1 and 59

4. At a gymnastics meet, a gymnast scored an 8.95 on the vault and a 9.2 on the uneven bars. Write two equivalent expressions that could be used to find her total score. (Example 5)

5. Nadia bought suntan lotion for $12, sunglasses for $15, and a towel for $18. Use the Associative Property to mentally find the total of her purchases. (Example 6)

Independent Practice

Determine whether the two expressions are equivalent. If so, tell what property is applied. If not, explain why. (Examples 1–4)

1. $(8 + 27) + 52$ and $8 + (27 + 52)$

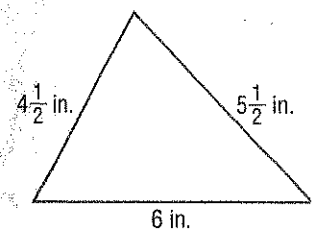
2. $(3 \cdot 6) \cdot 9$ and $3 \cdot (6 \cdot 9)$

3. $72 - (63 - 8)$ and $(72 - 63) - 8$

4. $36 \div (12 \div 3)$ and $(36 \div 12) \div 3$

5. $0 + 32$ and 0

6. STEM Find the perimeter of the triangle shown. (Example 6)



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7 Each day, about 75,000 people visit Paris, France. Use the Commutative Property to write two equivalent expressions that could be used to find the number of people that visit over a 5-day period. (Example 5)

_____

_____

Use one or more properties to rewrite each expression as an expression that does not use parentheses.

8. $(y + 1) + 4 =$ _____

9. $(6 \cdot r) \cdot 7 =$ _____

Find the value of x that makes a true statement.

10. $24 + x = 24$ _____

11 $17 + x = 3 + 17$ _____

Extra Practice

Determine whether the two expressions are equivalent. If so, tell what property is applied. If not, explain why.

17. 64 + 0 and 64 yes; Identity Property

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18. 23 · 1 and 23 _____

19. 8 ÷ 2 and 2 ÷ 8 _____

20. 46 + 15 and 15 + 46 _____

21. 13 · 1 and 1 _____

Use one or more properties to rewrite each expression as an expression that does not use parentheses.

24. $2 + (x + 4) =$ _____

25. $4 + (b + 0) =$ _____