

Equivalent Expressions

Guided Practice

Simplify each expression. (Examples 1, 3, and 4)

1. $5(6x) =$ _____

2. $2x + 5y + 7x =$ _____

3. $4(2x + 5y) =$ _____

Show
your
work.

4. Factor $35x + 28y$. (Example 5) _____

5. Mikayla bought five skirts at \$ x each. Three of the five skirts came with a matching top for an additional \$9 each. Write and simplify an expression that represents the total cost of her purchase. (Example 2)

6. The free gift bag from Claire Cosmetics includes 5 bottles of nail polish and 2 tubes of lip gloss. Use p to represent each bottle of nail polish and g to represent each tube of lip gloss. Write and simplify an expression that represents the total of each type of gift in 8 free gift bags. (Example 6)

Independent Practice

Simplify each expression. (Examples 1, 3, and 4)

1. $x + 4x + 6x =$ _____

2. $3x + 4x + 5x =$ _____

3. $9(5x) =$ _____

4. $3x + 8y + 13x =$ _____

5. $7(3x + 5y) =$ _____

6. $3x + 6x + 2x =$ _____

Show
your
work.

Factor each expression. (Example 5)

7. $24x + 18y =$ _____

8. $16x + 40y =$ _____

9. Eight friends went to a hockey game. The price of admission per person was \$ x . Four of the friends paid an extra \$6 each for a player guide book. Write and simplify an expression that represents the total cost.
(Example 2)

10. Gabriella is x years old. Her sister, Felicia, is six years older than she is. Their mother is twice as old as Felicia. Their aunt, Tanya, is x years older than their mother. Write and simplify an expression that represents Tanya's age in years. (Example 2)

11. A DVD box set includes 3 thriller movies and 2 comedies. Use t to represent each thriller and c to represent each comedy. Write and simplify an expression that represents the total of each type of movie in 6 box sets.
(Example 6)

12. A fall candle gift set has 4 vanilla candles and 6 pumpkin spice candles. Use v to represent each vanilla candle and p to represent each pumpkin candle. Write and simplify an expression that represents the total of each candle scent in 4 sets.
(Example 6)

Simplify each expression.

21. $4x + 2x + 3x = 9x$

22. $2x + 8x + 4x =$ _____

23. $7(3x) =$ _____

$4x + 2x + 3x = (4x + 2x) + 3x$
 $= 6x + 3x$
 $= 9x$

24. $8y + 4x + 6y =$ _____

25. $4(7x + 5y) =$ _____

26. $6x + 2x =$ _____

Factor each expression.

27. $10x + 15y =$ _____

28. $35x + 63y =$ _____

29. **CCSS Use Math Tools** Four friends went to see a movie. Each ticket cost \$ x . The table shows the prices of several items at the theater. They bought four large pretzels and four bottles of water. Write and simplify an expression that represents the total cost of tickets and snacks or beverages.

Snack or Beverage	Price
large popcorn	\$4
large pretzel	\$3
small soda	\$2
bottle of water	\$2