

Equivalent Expressions and Combining Like Terms

Directions: Simplify problems 1-15. For problems 16-22, decide whether the two expressions are equivalent. If they are not equivalent, give one value of the variable that shows they are different. For problems 23-27, create an example that satisfies the condition.

1. $7x + 4x$

2. $9a - 2a + 5a$

3. $6y + 8 - 3y + 4$

4. $12m - 7 + 5m - 9$

5. $8p + 3q - 2p + 9q$

6. $4x^2 + 6x - 9x^2 + 2x$

7. $-5n + 12 + 8n - 3$

8. $11r - 4s + 3r + 7s$

9. $2ab + 9a - 5ab + 4a$

10. $15 - 6t + 8 - 3t$

11. $6x + 5y + 3x - 2y$

12. $-7k + 10 + 12k - 14$

13. $3x^2 + 8x + 5x^2 - 11x$

14. $14c - 5d - 3c + 8d$

15. $-9v + 6v - 12 + 5$

16. $3x + 9x$ and $12x$

17. $5x+4$ and $9x$

18. $4(x+6)$ and $4x+24$

19. $-2(x-3)$ and $-2x-6$

20. $7a-2a+5$ and $5a+5$

21. $2x^2+3x$ and $5x^2$

22. $6(y+1)-2y$ and $4y+6$

23. Create an expression with four terms that simplifies to $5x+8$.

24. Create two different-looking expressions that are equivalent.

25. Create an expression that is not equivalent to $3x+6$, but has the same value when $x=2$.

26. Create three unlike terms and three like terms. Then simplify only the terms that can be combined.

27. Create a pair of expressions that are equal when $x=1$ but are not always equivalent.