NAME _____ DATE _____

Module 2 Writing and Simplifying Algebraic Expressions
Lesson 4 Combining Like Terms

independent practice

Simplify each expression.

1. $3r + 4r$ _____

2. $12x - 15x$ _____

3. $-a + 6m - 3a + 2m$ _____

4. $29 - 8k + 16k$ _____

5. $2t - t - 7t$ _____

6. $5x^3y - 7zy^2 - 5x^3y + 7zy^2$ _____

7. $7d + 5 - 6 + 4d$ _____

8. $9b + 10 - b + 3y - 5$ _____

9. $4 + 5q - q - 6.5$ _____

10. $44f + (36f + 23f)$ _____

11. $56a + 49 - 12a + 21$ _____

12. $5j^2 - 6j + 2j^2$ _____

13. $13xy^2 + 16x^2y - 7x^2y$ _____

14. $7b + c - b + \frac{3}{5}c$ _____

15. $4s + 16 + 5s$

_____

16. $-4 + 2m - 15y - 21y + 17m$

_____

17. $3 + m^3 - 6m^4 - 5n^2 + 8 - 2n^2$

_____

18. $18 + 37n + 22 - 44 + 120m - 4n + 69$

_____

19. $15 - (10a - 20)$

_____

20. $(40 - 20p) - (2p^2 + 6p)$

_____

Journal

1. Explain why $4x^2y$ and $4xy^2$ are not like terms.
2. Explain why $4a^2 + 3a \neq 7a^3$.
3. To simplify the polynomial $6x + 3 + 4x + 2$, we can write $6x + 3 + 4x + 2 = 6x + 4x + 3 + 2 = 10x + 5$. Name the property used to rewrite $6x + 3 + 4x + 2$ as $6x + 4x + 3 + 2$ and explain how it is used.
4. Explain the process used to add polynomials.
5. Explain the process used to subtract polynomials.

Cumulative Review

Name the property shown in each of the following.

1. $\frac{1}{2} \cdot 1 = 1 \cdot \frac{1}{2}$

_____

2. $125x - 75 = 25(5x - 3)$

_____

3. $0 = -3f + 3f$

_____

4. $341x + (114x + 65) = (341x + 114x) + 65$

_____

Simplify each expression.

5. $34y - 25y + 32y$

_____

6. $5t(5s - 16)$

_____

7. $35h^3 - 16t^2 + 24t^3 - 25h^3$

_____

8. $9a + 3b - 3 - 4a + 7 - 8b + 16 - 12b$

_____

Manipulative Problems

Simplify using Algebra Tiles to model each expression.

1. $5x^2 + x^2 - 4x + 1 - 3$

_____

2. $-x - 5x^2 + 1 - 2x^2 + x - 4$

_____

3. $5x^2 + 2x - x^2 + 4x + 3 - 7$

4. $2 + 3x^2 - 4x - 5 + 2x - 3 + 4x^2 - x$

5. $3 - 2x + 3x^2 + 2x - 1 + 4 + 2x^2$