Check for Understanding

Concept Check

1. Explain why $5xy^2$ and $3x^2y$ are *not* like terms.
2. **OPEN ENDED** Write two polynomials whose difference is $2x^2 + x + 3$.
3. **FIND THE ERROR** Esteban and Kendra are finding $(5a - 6b) - (2a + 5b)$.

Esteban	Kendra
$(5a - 6b) - (2a + 5b)$	$(5a - 6b) - (2a + 5b)$
$= (-5a + 6b) + (-2a - 5b)$	$= (5a - 6b) + (-2a - 5b)$
$= -7a + b$	$= 3a - 11b$

Who is correct? Explain your reasoning.

Guided Practice

Find each sum or difference.

4. $(4p^2 + 5p) + (-2p^2 + p)$
5. $(5y^2 - 3y + 8) + (4y^2 - 9)$
6. $(8cd - 3d + 4c) + (-6 + 2cd)$
7. $(6a^2 + 7a - 9) - (-5a^2 + a - 10)$
8. $(g^3 - 2g^2 + 5g + 6) - (g^2 + 2g)$
9. $(3ax^2 - 5x - 3a) - (6a - 8a^2x + 4x)$

Application

POPULATION For Exercises 10 and 11, use the following information. From 1990 through 1999, the female population F and the male population M of the United States (in thousands) are modeled by the following equations, where n is the number of years since 1990. **Source:** U.S. Census Bureau

$$F = 1247n + 126{,}971 \qquad M = 1252n + 120{,}741$$

10. Find an equation that models the total population T in thousands of the United States for this time period.
11. If this trend continues, what will the population of the United States be in 2010?

Practice and Apply

Homework Help

For Exercises	See Examples
12–31	1, 2
32, 33	3

Extra Practice

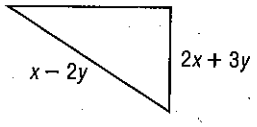
See page 838.

Find each sum or difference.

12. $(6n^2 - 4) + (-2n^2 + 9)$
13. $(9z - 3z^2) + (4z - 7z^2)$
14. $(3 + a^2 + 2a) + (a^2 - 8a + 5)$
15. $(-3n^2 - 8 + 2n) + (5n + 13 + n^2)$
16. $(x + 5) + (2y + 4x - 2)$
17. $(2b^3 - 4b + b^2) + (-9b^2 + 3b^3)$
18. $(11 + 4d^2) - (3 - 6d^2)$
19. $(4g^3 - 5g) - (2g^3 + 4g)$
20. $(-4y^3 - y + 10) - (4y^3 + 3y^2 - 7)$
21. $(4x + 5xy + 3y) - (3y + 6x + 8xy)$
22. $(3x^2 + 8x + 4) - (5x^2 - 4)$
23. $(5ab^2 + 3ab) - (2ab^2 + 4 - 8ab)$
24. $(x^3 - 7x + 4x^2 - 2) - (2x^2 - 9x + 4)$
25. $(5x^2 + 3a^2 - 5x) - (2x^2 - 5ax + 7x)$
26. $(3a + 2b - 7c) + (6b - 4a + 9c) + (-7c - 3a - 2b)$
27. $(5x^2 - 3) + (x^2 - x + 11) + (2x^2 - 5x + 7)$
28. $(3y^2 - 8) + (5y + 9) - (y^2 + 6y - 4)$
29. $(9x^3 + 3x - 13) - (6x^2 - 5x) + (2x^3 - x^2 - 8x + 4)$

GEOMETRY The measures of two sides of a triangle are given. If P is the perimeter, find the measure of the third side.

30. $P = 7x + 3y$



31. $P = 10x^2 - 5x + 16$