Module 11 Simplifying Algebraic Expressions with Polynomials

Lesson 3 Adding and Subtracting Polynomials

independent practice

Find each sum or difference either horizontally or vertically. Write answers in simplest form.

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

$8y - 6$

2. $(5x + 3) - (4x + 2)$

$x + 1$

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

$2x^2 + 2x + 1$

4. $(x^5 - 6) - (x^3 + 3)$

$x^5 - x^3 - 9$

5. $(2r^2 + 7r - 3) - (-5r^2 + 3r + 4)$

$7r^2 + 4r - 7$

6. $(12b^2 + 7b + 6) + (9b^2 + 5b - 2)$

$21b^2 + 12b + 4$

7. $(2k - 1) - (4k^2 + 3k - 7)$

$-4k^2 - k + 6$

8. $(9q^2 + 6q + 3) - (5q^2 - q + 5)$

$4q^2 + 7q - 2$

9. $(8k^2 + 4k - 9) + (5k^2 + 4k + 9)$

$13k^2 + 8k$

10. $(5c^2 - 9c + 7) - (-2c^2 + 3)$

$7c^2 - 9c + 4$

11.
$$\begin{array}{r} 3r^2 - 5r + 19 \\ +\ 7r^2 + 10r + 12 \\ \hline \end{array}$$

$10r^2 + 5r + 31$

12.
$$\begin{array}{r} -10x^2 - 5x + 6 \\ -\ (-5x^2 + 12x + 2) \\ \hline \end{array}$$

$-5x^2 - 17x + 4$

13. $(21q^2r + 15qr^2 - 6) + (13q^2r - 3qr^2 + 5)$ **$34q^2r + 12qr^2 - 1$**

14. $(9c^2d^2 - 6cd^3 + 4cd) - (-3c^2d^2 + 10cd^3 - 9cd)$ **$12c^2d^2 - 16cd^3 + 13cd$**

15. $(14x^2 - 9xy + 20y^2) + (12x^2 + 15xy - 17y^2)$ **$26x^2 + 6xy + 3y^2$**

16. $(5y^2z^3 + 7y^3z + 8) - (-2y^2z - 6yz)$ **$5y^2z^3 + 7y^3z + 2y^2z + 6yz + 8$**

17. $(a^2b^2 + 7ab - 9) - (a^2b^2 - 7ab + 9)$ **$14ab - 18$**

18. $(4m^2n - 3mn + 8) + (6m^2n + 14mn - 7)$ **$10m^2n + 11mn + 1$**

19. $\left(\frac{4}{5}r^2 - \frac{9}{10}s^2 - \frac{1}{4}rs\right) - \left(-\frac{2}{3}r^2 + \frac{1}{4}s^2 - \frac{1}{3}rs\right)$ **$\frac{22}{15}r^2 - \frac{23}{20}s^2 + \frac{1}{12}rs$**

20. $(-0.02a^2 - 4.3b^2 + 0.13ab) + (0.01a^2 + 5.2b^2 - 1.4ab)$