

Multiplying Three Trinomials (J)

Simplify each expression.

1. $(-c^3 + 7c^2 + 9c)(-7c^4 + 8c^3 + 6c^2)(4c^5 + 4c^4 + 4c^3)$

2. $(-3b^3 - 3b^2 + b)(5b^3 - b^2 + 2b)(2b^4 + 8b^3 + 9b^2)$

3. $(-2c^3 - 8c^2 + 2c)(-4c^2 - 6c - 8)(-3c^3 - 9c^2 - 6c)$

4. $(9r^4 + 9r^3 - 2r^2)(7r^3 - 8r^2 + 4r)(-5r^2 - 8r - 4)$

5. $(w^5 - 6w^4 - 6w^3)(-4w^5 - w^4 - 2w^3)(9w^2 - w - 6)$

Multiplying Three Trinomials (J) Answers

Simplify each expression.

$$\begin{aligned} 1. & (-c^3 + 7c^2 + 9c)(-7c^4 + 8c^3 + 6c^2)(4c^5 + 4c^4 + 4c^3) \\ & = 28c^{12} - 200c^{11} - 252c^{10} + 176c^9 + 620c^8 + 672c^7 + 216c^6 \end{aligned}$$

$$\begin{aligned} 2. & (-3b^3 - 3b^2 + b)(5b^3 - b^2 + 2b)(2b^4 + 8b^3 + 9b^2) \\ & = -30b^{10} - 144b^9 - 227b^8 - 106b^7 - 34b^6 - 47b^5 + 18b^4 \end{aligned}$$

$$\begin{aligned} 3. & (-2c^3 - 8c^2 + 2c)(-4c^2 - 6c - 8)(-3c^3 - 9c^2 - 6c) \\ & = -24c^8 - 204c^7 - 612c^6 - 924c^5 - 756c^4 - 168c^3 + 96c^2 \end{aligned}$$

$$\begin{aligned} 4. & (9r^4 + 9r^3 - 2r^2)(7r^3 - 8r^2 + 4r)(-5r^2 - 8r - 4) \\ & = -315r^9 - 459r^8 + 70r^7 + 176r^6 - 176r^5 - 144r^4 + 32r^3 \end{aligned}$$

$$\begin{aligned} 5. & (w^5 - 6w^4 - 6w^3)(-4w^5 - w^4 - 2w^3)(9w^2 - w - 6) \\ & = -36w^{12} + 211w^{11} + 253w^{10} - 4w^9 - 78w^8 - 120w^7 - 72w^6 \end{aligned}$$