

Multiplying Three Trinomials (C)

Simplify each expression.

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

2. $(4w^2 + 2w - 6)(-5w^2 + 8w - 9)(7w^2 - 5w - 9)$

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

4. $(6z^3 + 7z^2 + 2z)(-4z^4 - 6z^3 + 8z^2)(-8z^4 - 3z^3 - 8z^2)$

5. $(-5w^2 - 6w - 1)(-6w^2 - 8w - 4)(-7w^2 - 8w - 1)$

Multiplying Three Trinomials (C) Answers

Simplify each expression.

$$\begin{aligned} 1. & (-6r^3 + 4r^2 + 2r)(-5r^4 + r^3 + 7r^2)(4r^5 + 9r^4 + r^3) \\ & = 120r^{12} + 166r^{11} - 396r^{10} - 338r^9 + 278r^8 + 156r^7 + 14r^6 \end{aligned}$$

$$\begin{aligned} 2. & (4w^2 + 2w - 6)(-5w^2 + 8w - 9)(7w^2 - 5w - 9) \\ & = -140w^6 + 254w^5 + 140w^4 - 710w^3 + 618w^2 + 324w - 486 \end{aligned}$$

$$\begin{aligned} 3. & (2y^4 + 5y^3 - 3y^2)(-4y^5 - 4y^4 + 7y^3)(5y^4 - 3y^3 - 4y^2) \\ & = -40y^{13} - 116y^{12} + 146y^{11} + 329y^{10} - 270y^9 - 125y^8 + 84y^7 \end{aligned}$$

$$\begin{aligned} 4. & (6z^3 + 7z^2 + 2z)(-4z^4 - 6z^3 + 8z^2)(-8z^4 - 3z^3 - 8z^2) \\ & = 192z^{11} + 584z^{10} + 400z^9 + 166z^8 - 244z^7 - 400z^6 - 128z^5 \end{aligned}$$

$$\begin{aligned} 5. & (-5w^2 - 6w - 1)(-6w^2 - 8w - 4)(-7w^2 - 8w - 1) \\ & = -210w^6 - 772w^5 - 1156w^4 - 892w^3 - 358w^2 - 64w - 4 \end{aligned}$$