

## Multiplying Three Trinomials (D)

Simplify each expression.

1.  $(-5t^4 - 2t^3 - 6t^2)(-4t^3 + 4t^2 - 4t)(5t^2 + 6t + 3)$

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

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

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

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

## Multiplying Three Trinomials (D) Answers

Simplify each expression.

$$\begin{aligned} 1. & (-5t^4 - 2t^3 - 6t^2)(-4t^3 + 4t^2 - 4t)(5t^2 + 6t + 3) \\ & = 100t^9 + 60t^8 + 168t^7 + 100t^6 + 132t^5 + 96t^4 + 72t^3 \end{aligned}$$

$$\begin{aligned} 2. & (-3g^5 - 6g^4 - 8g^3)(9g^4 + 7g^3 + 8g^2)(2g^2 + g - 3) \\ & = -54g^{11} - 177g^{10} - 270g^9 - 121g^8 + 182g^7 + 248g^6 + 192g^5 \end{aligned}$$

$$\begin{aligned} 3. & (-5f^2 - 3f + 1)(7f^4 + 5f^3 - 3f^2)(-f^3 - 9f^2 - 5f) \\ & = 35f^9 + 361f^8 + 582f^7 + 153f^6 - 158f^5 - 43f^4 + 15f^3 \end{aligned}$$

$$\begin{aligned} 4. & (7m^5 - 7m^4 - 6m^3)(2m^5 + 9m^4 - 9m^3)(-3m^4 - 9m^3 + 9m^2) \\ & = -42m^{14} - 273m^{13} + 99m^{12} + 1656m^{11} - 1485m^{10} - 405m^9 + 486m^8 \end{aligned}$$

$$\begin{aligned} 5. & (-5x^4 + x^3 + 5x^2)(-7x^2 - 9x + 5)(2x^4 + 4x^3 + x^2) \\ & = 70x^{10} + 216x^9 + 49x^8 - 318x^7 - 179x^6 + 60x^5 + 25x^4 \end{aligned}$$