

## Multiplying Two Binomials by a Trinomial (E)

Simplify each expression.

1.  $(5q^5 + q^4)(-6q^4 + 3q^3)(3q^3 - 8q^2 - q)$

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

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

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

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

## Multiplying Two Binomials by a Trinomial (E) Answers

Simplify each expression.

$$\begin{aligned} 1. & (5q^5 + q^4)(-6q^4 + 3q^3)(3q^3 - 8q^2 - q) \\ & = -90q^{12} + 267q^{11} - 33q^{10} - 33q^9 - 3q^8 \end{aligned}$$

$$\begin{aligned} 2. & (-2x^4 + 3x^3)(-x^5 + 7x^4)(-6x^4 - 3x^3 - 3x^2) \\ & = -12x^{13} + 96x^{12} - 81x^{11} - 12x^{10} - 63x^9 \end{aligned}$$

$$\begin{aligned} 3. & (-7z^2 - 4z)(5z^5 - 5z^4)(4z^5 + 9z^4 - 6z^3) \\ & = -140z^{12} - 255z^{11} + 425z^{10} + 90z^9 - 120z^8 \end{aligned}$$

$$\begin{aligned} 4. & (5g^4 - 6g^3)(-6g^4 - 5g^3)(-6g^4 + g^3 + 8g^2) \\ & = 180g^{12} - 96g^{11} - 409g^{10} + 118g^9 + 240g^8 \end{aligned}$$

$$\begin{aligned} 5. & (-7h + 6)(-4h + 2)(8h^2 - 8h + 2) \\ & = 224h^4 - 528h^3 + 456h^2 - 172h + 24 \end{aligned}$$