

## Multiplying Three Binomials (E)

Simplify each expression.

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

2.  $(3n^2 - 8n)(5n^2 - 9n)(2n^4 - 6n^3)$

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

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

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

## Multiplying Three Binomials (E) Answers

Simplify each expression.

$$\begin{aligned} 1. & (4q - 1)(3q^5 + 8q^4)(2q - 2) \\ & = 24q^7 + 34q^6 - 74q^5 + 16q^4 \end{aligned}$$

$$\begin{aligned} 2. & (3n^2 - 8n)(5n^2 - 9n)(2n^4 - 6n^3) \\ & = 30n^8 - 224n^7 + 546n^6 - 432n^5 \end{aligned}$$

$$\begin{aligned} 3. & (-6n^3 + 8n^2)(-9n^2 - 8n)(-8n^5 + 3n^4) \\ & = -432n^{10} + 354n^9 + 440n^8 - 192n^7 \end{aligned}$$

$$\begin{aligned} 4. & (r^3 + 3r^2)(-2r^3 + 8r^2)(8r^5 - 4r^4) \\ & = -16r^{11} + 24r^{10} + 184r^9 - 96r^8 \end{aligned}$$

$$\begin{aligned} 5. & (-8k^3 + 7k^2)(-3k^3 + 5k^2)(-6k^2 + 4k) \\ & = -144k^8 + 462k^7 - 454k^6 + 140k^5 \end{aligned}$$