

## Multiplying Three Binomials (H)

Simplify each expression.

1.  $(7g^5 - 8g^4)(7g^5 - 8g^4)(-6g^4 - 5g^3)$

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

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

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

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

## Multiplying Three Binomials (H) Answers

Simplify each expression.

$$\begin{aligned} 1. & (7g^5 - 8g^4)(7g^5 - 8g^4)(-6g^4 - 5g^3) \\ & = -294g^{14} + 427g^{13} + 176g^{12} - 320g^{11} \end{aligned}$$

$$\begin{aligned} 2. & (-9g^3 + 3g^2)(-g - 6)(-g - 8) \\ & = -9g^5 - 123g^4 - 390g^3 + 144g^2 \end{aligned}$$

$$\begin{aligned} 3. & (-9q^4 - q^3)(-6q^2 + 7q)(-5q - 1) \\ & = -270q^7 + 231q^6 + 92q^5 + 7q^4 \end{aligned}$$

$$\begin{aligned} 4. & (-8r^3 - r^2)(4r^2 - r)(8r^5 - 6r^4) \\ & = -256r^{10} + 224r^9 - 16r^8 - 6r^7 \end{aligned}$$

$$\begin{aligned} 5. & (-m^4 - 4m^3)(-6m - 7)(3m^2 + 6m) \\ & = 18m^7 + 129m^6 + 270m^5 + 168m^4 \end{aligned}$$