

## Multiplying Three Mon/Polynomials (F)

Simplify each expression.

1.  $(-s^3 - 8s^2 + 3s)(9s^4 + s^3 - 3s^2)(-9s + 8)$

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

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

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

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

## Multiplying Three Mon/Polynomials (F) Answers

Simplify each expression.

$$\begin{aligned} 1. & (-s^3 - 8s^2 + 3s)(9s^4 + s^3 - 3s^2)(-9s + 8) \\ & = 81s^8 + 585s^7 - 782s^6 - 67s^5 + 297s^4 - 72s^3 \end{aligned}$$

$$\begin{aligned} 2. & (5t^3 - 7t^2 + 3t)(-t^3 - 3t^2)(3t^4 - 6t^3) \\ & = -15t^{10} + 6t^9 + 102t^8 - 135t^7 + 54t^6 \end{aligned}$$

$$\begin{aligned} 3. & (-9n^5 + 3n^4)(7n^3 + n^2)(-3n^5 - n^4) \\ & = 189n^{13} + 27n^{12} - 21n^{11} - 3n^{10} \end{aligned}$$

$$\begin{aligned} 4. & (7w - 7)(4w^4 + 6w^3 - 7w^2)(8w^4 - 5w^3) \\ & = 224w^9 - 28w^8 - 798w^7 + 847w^6 - 245w^5 \end{aligned}$$

$$\begin{aligned} 5. & (3s^2 - 2s)(5s^5 - 7s^4 + 7s^3)(8s^3 + 7s^2) \\ & = 120s^{10} - 143s^9 + 63s^8 + 133s^7 - 98s^6 \end{aligned}$$