

## Multiplying a Binomial by a Trinomial (H)

Simplify each expression.

1.  $(-2x^2 - 2x)(8x^2 + 4x + 7)$

2.  $(6k^4 + 9k^3)(3k^2 - 3k + 3)$

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

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

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

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

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

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

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

10.  $(4n^3 - 3n^2)(-4n^5 + 2n^4 + 2n^3)$

## Multiplying a Binomial by a Trinomial (H) Answers

Simplify each expression.

$$\begin{aligned} 1. & (-2x^2 - 2x)(8x^2 + 4x + 7) \\ & = -16x^4 - 24x^3 - 22x^2 - 14x \end{aligned}$$

$$\begin{aligned} 2. & (6k^4 + 9k^3)(3k^2 - 3k + 3) \\ & = 18k^6 + 9k^5 - 9k^4 + 27k^3 \end{aligned}$$

$$\begin{aligned} 3. & (2q^3 + 6q^2)(3q^3 - 2q^2 + 8q) \\ & = 6q^6 + 14q^5 + 4q^4 + 48q^3 \end{aligned}$$

$$\begin{aligned} 4. & (3f + 7)(-9f^5 - 9f^4 - 5f^3) \\ & = -27f^6 - 90f^5 - 78f^4 - 35f^3 \end{aligned}$$

$$\begin{aligned} 5. & (8t^3 - t^2)(8t^5 - 9t^4 - 3t^3) \\ & = 64t^8 - 80t^7 - 15t^6 + 3t^5 \end{aligned}$$

$$\begin{aligned} 6. & (v - 7)(5v^5 - 8v^4 - 6v^3) \\ & = 5v^6 - 43v^5 + 50v^4 + 42v^3 \end{aligned}$$

$$\begin{aligned} 7. & (3k + 1)(-7k^3 + 9k^2 + 5k) \\ & = -21k^4 + 20k^3 + 24k^2 + 5k \end{aligned}$$

$$\begin{aligned} 8. & (6x^4 - 4x^3)(-7x^3 + 9x^2 - x) \\ & = -42x^7 + 82x^6 - 42x^5 + 4x^4 \end{aligned}$$

$$\begin{aligned} 9. & (-r^2 + 4r)(-3r^5 - 6r^4 + r^3) \\ & = 3r^7 - 6r^6 - 25r^5 + 4r^4 \end{aligned}$$

$$\begin{aligned} 10. & (4n^3 - 3n^2)(-4n^5 + 2n^4 + 2n^3) \\ & = -16n^8 + 20n^7 + 2n^6 - 6n^5 \end{aligned}$$