Multiplying a Binomial by a Trinomial (A)

Simplify each expression.

1. $(6c^4 - c^3)(9c^3 - 7c^2 - 3c)$

2. $(a^4 + 5a^3)(5a^4 - 4a^3 - 5a^2)$

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

4. $(2q^2 - q)(2q^2 + 9q - 2)$

5. $(-8g^4 - 6g^3)(-9g^3 + 2g^2 + 7g)$

6. $(-5b^2 - b)(9b^3 - b^2 - 2b)$

7. $(-k + 8)(-2k^2 - 8k - 1)$

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

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

10. $(2g^3 + g^2)(4g^3 - 7g^2 - 3g)$

Simplify each expression.

1. $(6c^4 - c^3)(9c^3 - 7c^2 - 3c)$
   $= 54c^7 - 51c^6 - 11c^5 + 3c^4$

2. $(a^4 + 5a^3)(5a^4 - 4a^3 - 5a^2)$
   $= 5a^8 + 21a^7 - 25a^6 - 25a^5$

3. $(7k^2 - 9k)(9k^4 - 2k^3 + 3k^2)$
   $= 63k^6 - 95k^5 + 39k^4 - 27k^3$

4. $(2q^2 - q)(2q^2 + 9q - 2)$
   $= 4q^4 + 16q^3 - 13q^2 + 2q$

5. $(-8g^4 - 6g^3)(-9g^3 + 2g^2 + 7g)$
   $= 72g^7 + 38g^6 - 68g^5 - 42g^4$

6. $(-5b^2 - b)(9b^3 - b^2 - 2b)$
   $= -45b^5 - 4b^4 + 11b^3 + 2b^2$

7. $(-k + 8)(-2k^2 - 8k - 1)$
   $= 2k^3 - 8k^2 - 63k - 8$

8. $(-7s^4 - 6s^3)(8s^2 - 7s + 4)$
   $= -56s^6 + s^5 + 14s^4 - 24s^3$

9. $(z^4 + 3z^3)(6z^3 - 4z^2 + 4z)$
   $= 6z^7 + 14z^6 - 8z^5 + 12z^4$

10. $(2g^3 + g^2)(4g^3 - 7g^2 - 3g)$
    $= 8g^6 - 10g^5 - 13g^4 - 3g^3$