Multiplying a Monomial by a Trinomial (A)

Simplify each expression.

1. $6s^5(-3s^4 - 2s^3 + s^2)$

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

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

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

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

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

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

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

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

10. $-2n^3(5n^2 + 7n - 6)$

Simplify each expression.

1. $6s^5(-3s^4 - 2s^3 + s^2)$
   $= -18s^9 - 12s^8 + 6s^7$

2. $5b^3(4b^5 - 8b^4 + 9b^3)$
   $= 20b^8 - 40b^7 + 45b^6$

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

4. $-5z^4(-z^3 + 3z^2 + 5z)$
   $= 5z^7 - 15z^6 - 25z^5$

5. $-8s^3(2s^3 + 4s^2 - 2s)$
   $= -16s^6 - 32s^5 + 16s^4$

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

7. $3f^5(-3f^2 - 2f + 1)$
   $= -9f^7 - 6f^6 + 3f^5$

8. $8p^4(-9p^3 - 7p^2 + 3p)$
   $= -72p^7 - 56p^6 + 24p^5$

9. $-6r^3(7r^3 - 5r^2 + 4r)$
   $= -42r^6 + 30r^5 - 24r^4$

10. $-2n^3(5n^2 + 7n - 6)$
    $= -10n^5 - 14n^4 + 12n^3$