## Simplify each expression.

1. $(3f^5 - 5f^4)(-9f^2 + 8f - 1)(-3f^2 + 4f + 5)$

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

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

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

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

### Simplify each expression.

1. $(3f^5 - 5f^4)(-9f^2 + 8f - 1)(-3f^2 + 4f + 5)$
   $= 81f^9 - 315f^8 + 270f^7 + 158f^6 - 195f^5 + 25f^4$

2. $(-3r^4 + 3r^3 - 7r^2)(7r^4 - 4r^3 - 7r^2)(-4r^2 - 6r + 4)$
   $= 84r^{10} - 6r^9 - 122r^8 + 344r^7 - 398r^6 - 266r^5 + 196r^4$

3. $-7x^2(8x^2 + 8x + 9)(-9x^3 - 3x^2 - 2x)$
   $= 504x^7 + 672x^6 + 847x^5 + 301x^4 + 126x^3$

4. $(3b^2 + 8b)(2b^4 + b^3)(-b^4 - 7b^3 + 4b^2)$
   $= -6b^{10} - 61b^9 - 117b^8 + 20b^7 + 32b^6$

5. $-7s^5(-2s^5 - 3s^4 + 5s^3)(-4s^5 - 9s^4 - 8s^3)$
   $= -56s^{15} - 210s^{14} - 161s^{13} + 147s^{12} + 280s^{11}$