Multiplying Three Mon/Polynomials (G)

Simplify each expression.

1. $6p^2(-2p^3 + 5p^2)(8p^5 + 4p^4 + 3p^3)$

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

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

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

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

Multiplying Three Mon/Polynomials (G) Answers

Simplify each expression.

1. $6p^2(-2p^3 + 5p^2)(8p^5 + 4p^4 + 3p^3)$
   $= -96p^{10} + 192p^9 + 84p^8 + 90p^7$

2. $-4r^4(-4r^5 - 5r^4)(-r^4 - 8r^3 + 3r^2)$
   $= -16r^{13} - 148r^{12} - 112r^{11} + 60r^{10}$

3. $(-8s^5 + 9s^4)(5s^4 + 4s^3 - 2s^2)(-3s - 5)$
   $= 120s^{10} + 161s^9 - 221s^8 - 206s^7 + 90s^6$

4. $(-2c^3 + c^2 + 8c)(8c^2 - 8c + 1)(-2c^4 - 3c^3)$
   $= 32c^9 - 180c^7 - 36c^6 + 173c^5 - 24c^4$

5. $(6w^4 - 8w^3)(-4w^4 + 3w^3 - w^2)(-4w^5 - w^4)$
   $= 96w^{13} - 176w^{12} + 70w^{11} - 2w^{10} - 8w^9$