Multiplying Three Mon/Polynomials (E)

Simplify each expression.

1. $(-3p^5 + 6p^4 + p^3)(-9p^3 + 5p^2 - p)(4p^3 + 5p^2)$

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

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

4. $(2h^2 + 4h)(-5h^2 + 6h - 1)(2h^5 + 5h^4 - 7h^3)$

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

Multiplying Three Mon/Polynomials (E) Answers

Simplify each expression.

1. $(-3p^5 + 6p^4 + p^3)(-9p^3 + 5p^2 - p)(4p^3 + 5p^2)$
$= 108p^{11} - 141p^{10} - 249p^9 + 116p^8 - 9p^7 - 5p^6$

2. $(-8p^4 - 2p^3 - 3p^2)(5p^3 + 7p^2 + 6p)(-2p^2 - 4p)$
$= 80p^9 + 292p^8 + 418p^7 + 374p^6 + 168p^5 + 72p^4$

3. $(9h + 8)(9h^2 - h - 8)(-6h^4 + 4h^3)$
$= -486h^7 - 54h^6 + 732h^5 + 64h^4 - 256h^3$

4. $(2h^2 + 4h)(-5h^2 + 6h - 1)(2h^5 + 5h^4 - 7h^3)$
$= -20h^9 - 66h^8 + 74h^7 + 158h^6 - 174h^5 + 28h^4$

5. $2v^2(-6v^2 - 3v)(-5v^2 + 6v + 7)$
$= 60v^6 - 42v^5 - 120v^4 - 42v^3$