Multiplying Three Binomials (J)

Simplify each expression.

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

2. $(2z^3 - 9z^2)(2z + 1)(2z - 3)$

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

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

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

Multiplying Three Binomials (J) Answers

Simplify each expression.

1. $(-2z^5 + z^4)(-8z^5 + 5z^4)(-5z^5 + 3z^4)$
$= -80z^{15} + 138z^{14} - 79z^{13} + 15z^{12}$

2. $(2z^3 - 9z^2)(2z + 1)(2z - 3)$
$= 8z^5 - 44z^4 + 30z^3 + 27z^2$

3. $(-b + 8)(-5b^2 + 7b)(9b^2 - 7b)$
$= 45b^5 - 458b^4 + 833b^3 - 392b^2$

4. $(-4t^4 + 6t^3)(t^3 - 8t^2)(-7t^2 - 3t)$
$= 28t^9 - 254t^8 + 222t^7 + 144t^6$

5. $(-9w^3 - 9w^2)(w^5 - 8w^4)(-w^5 + 6w^4)$
$= 9w^{13} - 117w^{12} + 306w^{11} + 432w^{10}$