# Multiplication de Trois Trinômes (F)

## Simplifiez chaque expression.

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

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

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

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

5. $(b^4 + 8b^3 - 2b^2)(-8b^2 + 2b + 1)(-6b^4 - 9b^3 + 3b^2)$

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

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

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

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

10. $(-2s^3 + 4s^2 - s)(-8s^2 - 8s - 1)(-8s^5 - 3s^4 + 4s^3)$

Simplifiez chaque expression.

1. $(-s^3 - 9s^2 - 3s)(-s^5 - 2s^4 - 3s^3)(-9s^3 + 9s^2 + 7s)$
   $= -9s^{11} - 90s^{10} - 110s^9 - 4s^8 + 384s^7 + 312s^6 + 63s^5$

2. $(4v^5 + 8v^4 - 6v^3)(-5v^5 + 5v^4 + 8v^3)(4v^5 + 6v^4 - 5v^3)$
   $= -80v^{15} - 200v^{14} + 388v^{13} + 848v^{12} - 498v^{11} - 458v^{10} + 240v^9$

3. $(-7y^3 - y^2 - 8y)(-6y^5 - 7y^4 - 6y^3)(2y^5 + 2y^4 - 5y^3)$
   $= 84y^{13} + 194y^{12} + 94y^{11} + 43y^{10} - 265y^9 - 214y^8 - 240y^7$

4. $(-4g^3 + 2g^2 + 6g)(5g^5 - 2g^4 - g^3)(4g^3 + 2g^2 - 5g)$
   $= -80g^{11} + 32g^{10} + 256g^9 - 86g^8 - 202g^7 + 58g^6 + 30g^5$

5. $(b^4 + 8b^3 - 2b^2)(-8b^2 + 2b + 1)(-6b^4 - 9b^3 + 3b^2)$
   $= 48b^{10} + 444b^9 + 336b^8 - 507b^7 + 75b^6 + 30b^5 - 6b^4$

6. $(7a^5 - 7a^4 - 4a^3)(-7a^2 - 2a - 3)(3a^5 - 5a^4 + a^3)$
   $= -147a^{12} + 350a^{11} - 161a^{10} + 17a^9 - 88a^8 - 31a^7 + 12a^6$

7. $(-5s^3 - 4s^2 + s)(-8s^4 - 4s^3 - 2s^2)(3s^5 + 5s^4 - 5s^3)$
   $= 120s^{12} + 356s^{11} + 114s^{10} - 158s^9 - 76s^8 - 30s^7 + 10s^6$

8. $(2w^2 - w + 9)(-8w^5 - w^4 + 6w^3)(-7w^2 - 9w + 6)$
   $= 112w^9 + 102w^8 + 263w^7 + 672w^6 - 597w^5 - 576w^4 + 324w^3$

9. $(-4y^3 - 4y^2 + 8y)(-y^5 + y^4 - 3y^3)(7y^3 - y^2 - 5y)$
   $= 28y^{11} - 4y^{10} - 20y^9 + 140y^8 - 188y^7 - 76y^6 + 120y^5$

10. $(-2s^3 + 4s^2 - s)(-8s^2 - 8s - 1)(-8s^5 - 3s^4 + 4s^3)$
    $= -128s^{10} + 80s^9 + 288s^8 - 30s^7 - 108s^6 + 13s^5 + 4s^4$