

Multiplication d'un Binôme par Deux Trinômes (A)

Simplifiez chaque expression.

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

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

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

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

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

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

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

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

9. $(-n^4 - 5n^3)(3n^5 - 4n^4 + 3n^3)(-6n^5 - 4n^4 + n^3)$

10. $(2q - 1)(-q^2 - q + 9)(-6q^4 + 6q^3 - q^2)$

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Réponses

Simplifiez chaque expression.

$$\begin{aligned} 1. & (-9k^4 + 6k^3)(-9k^3 - 4k^2 + 3k)(-4k^2 + 2k - 9) \\ & = -324k^9 + 234k^8 - 561k^7 - 12k^6 + 495k^5 - 162k^4 \end{aligned}$$

$$\begin{aligned} 2. & (-p^3 + p^2)(-9p^2 - 9p + 4)(p^5 + 3p^4 + 3p^3) \\ & = 9p^{10} + 27p^9 + 14p^8 - 35p^7 - 27p^6 + 12p^5 \end{aligned}$$

$$\begin{aligned} 3. & (5y^3 - 6y^2)(-2y^3 - 5y^2 - 6y)(-4y^3 - 6y^2 - 2y) \\ & = 40y^9 + 112y^8 + 98y^7 - 118y^6 - 216y^5 - 72y^4 \end{aligned}$$

$$\begin{aligned} 4. & (3a^5 - 6a^4)(-6a^3 - 7a^2 + a)(4a^2 - 3a + 9) \\ & = -72a^{10} + 114a^9 - 27a^8 - 24a^7 + 423a^6 - 54a^5 \end{aligned}$$

$$\begin{aligned} 5. & (7t^3 - t^2)(9t^5 + 9t^4 - 3t^3)(-4t^3 - 3t^2 + 8t) \\ & = -252t^{11} - 405t^{10} + 462t^9 + 510t^8 - 249t^7 + 24t^6 \end{aligned}$$

$$\begin{aligned} 6. & (4w^5 - 2w^4)(3w^4 + 7w^3 - 3w^2)(-8w^5 + 9w^4 + 4w^3) \\ & = -96w^{14} - 68w^{13} + 454w^{12} - 194w^{11} - 50w^{10} + 24w^9 \end{aligned}$$

$$\begin{aligned} 7. & (-7r^5 - r^4)(-5r^5 + 4r^4 - 9r^3)(3r^2 - 8r + 9) \\ & = 105r^{12} - 349r^{11} + 676r^{10} - 652r^9 + 459r^8 + 81r^7 \end{aligned}$$

$$\begin{aligned} 8. & (4p^5 + 7p^4)(2p^4 - 7p^3 + 5p^2)(-9p^3 - 4p^2 - 9p) \\ & = -72p^{12} + 94p^{11} + 245p^{10} - 73p^9 + 121p^8 - 315p^7 \end{aligned}$$

$$\begin{aligned} 9. & (-n^4 - 5n^3)(3n^5 - 4n^4 + 3n^3)(-6n^5 - 4n^4 + n^3) \\ & = 18n^{14} + 78n^{13} - 61n^{12} + 11n^{11} + 77n^{10} - 15n^9 \end{aligned}$$

$$\begin{aligned} 10. & (2q - 1)(-q^2 - q + 9)(-6q^4 + 6q^3 - q^2) \\ & = 12q^7 - 6q^6 - 118q^5 + 169q^4 - 73q^3 + 9q^2 \end{aligned}$$