

Test1 - Calcul Littéral - 3ème

27 novembre 2024 - 15 min - Calculatrice interdite

Exercice 1 (5 pts) : Développer et réduire les expressions suivantes

$$A = 3(2 - a)$$

$$B = 4 - (3x - 1)$$

$$C = (x + 2)(5x + 1)$$

$$D = (3y + 2)(1 - 2y)$$

$$E = (x - 4)(2x - 1)$$

$$\begin{aligned} A &= 3(2 - a) \\ &= 3 \times 2 + 3 \times (-a) \\ &= 6 - 3a \end{aligned}$$

$$\begin{aligned} B &= 4 - (3x - 1) \\ &= 4 - 3x + 1 \\ &= 5 - 3x \end{aligned}$$

$$\begin{aligned} C &= (x + 2)(5x + 1) \\ &= x \times 5x + x \times 1 + 2 \times 5x + 2 \times 1 \\ &= 5x^2 + x + 10x + 2 \\ &= 5x^2 + 11x + 2 \end{aligned}$$

$$\begin{aligned} D &= (3y + 2)(1 - 2y) \\ &= 3y \times 1 + 3y \times (-2y) + 2 \times 1 + 2 \times (-2y) \\ &= 3y - 6y^2 + 2 - 4y \\ &= -6y^2 - y + 2 \end{aligned}$$

$$\begin{aligned} E &= (x - 4)(2x - 1) \\ &= x \times 2x + x \times (-1) - 4 \times 2x - 4 \times (-1) \\ &= 2x^2 - x - 8x + 4 \\ &= 2x^2 - 9x + 4 \end{aligned}$$

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Exercice 2 (5 pts) : Développer et réduire les expressions suivantes

$$A = 4(2 - y)$$

$$B = 3 - (5x - 1)$$

$$C = (x + 3)(2x + 5)$$

$$D = (4y + 1)(2 - y)$$

$$E = (x - 5)(3x - 1)$$

$$\begin{aligned} A &= 4(2 - y) \\ &= 4 \times 2 + 4 \times (-y) \\ &= 8 - 4y \end{aligned}$$

$$\begin{aligned} B &= 3 - (5x - 1) \\ &= 3 - 5x + 1 \\ &= 4 - 5x \end{aligned}$$

$$\begin{aligned} C &= (x + 3)(2x + 5) \\ &= x \times 2x + x \times 5 + 3 \times 2x + 3 \times 5 \\ &= 2x^2 + 5x + 6x + 15 \\ &= 2x^2 + 11x + 15 \end{aligned}$$

$$\begin{aligned} D &= (4y + 1)(2 - y) \\ &= 4y \times 2 + 4y \times (-y) + 1 \times 2 + 1 \times (-y) \\ &= 8y - 4y^2 + 2 - y \\ &= -4y^2 + 7y + 2 \end{aligned}$$

$$\begin{aligned} E &= (x - 5)(3x - 1) \\ &= x \times 3x + x \times (-1) - 5 \times 3x - 5 \times (-1) \\ &= 3x^2 - x - 15x + 5 \\ &= 3x^2 - 16x + 5 \end{aligned}$$