

Calcul littéral

exc 21.1.

a) $x^2 = 2x$ Fausse $x^2 = x \times x$ et $2x = x + x$

b) $0 + x = x$ Vraie

c) $x^2 + x = 2x^2$ Fausse $2x^2 = x^2 + x^2$

⚠ interdit d'+

d) $1 + 3x = 4x$ Fausse $4x = 3x + x$

⚠ interdit d'+

e) $4x + 7x = 11x^2$ Fausse $4x + 7x = 11x$

exc 21.2

A = $2x + 5x^2$ → rien à faire

B = $x - 4x$
= $-3x$

car $x - 4x = x + (-4x)$
= $-3x$

C = $2x^2 - x + x^2 - 7$
= $2x^2 + (-1)x + x^2 + (-7)$
= $2x^2 + x^2 + (-1)x + (-7)$
= $3x^2 - x - 7$

D = $7 \times 2x + 4x$
= $14x + 4x$
= $18x$

ex 21.3

$$A = 3(2x + 5) \\ = \underline{6x} + \underline{15}$$

$$C = 2x(x - 9) \\ = \underline{2x^2} - \underline{18x}$$

$$B = 2(3 - 5x) \\ = \underline{6} - \underline{10x}$$

$$D = -3x(2x + 7) \\ = \underline{-6x^2} + \underline{-21x}$$

ex 21.4

$$A = (x+4)(x+1) \\ = \underline{x^2} + \underline{x} + \underline{4x} + \underline{4} \\ = \underline{x^2 + 5x + 4}$$

$$B = (x+7)(4x+2) \\ = 4x^2 + 2x + 28x + 14 \\ = \underline{4x^2 + 30x + 14}$$

$$C = (2x+1)(2x-1) \\ = 4x^2 - \cancel{2x} + \cancel{2x} - 1 \\ = \underline{4x^2 - 1}$$

$$D = -(x+2)(x+3) \\ = (-x-2)(x+3) \\ = -x^2 - 3x - 2x - 6 \\ = \underline{-x^2 - 5x - 6}$$

$$E = -5(x-7) \\ = \underline{-5x + 35}$$

ex 21.5

$$A = (x+1)(x+2) - 3x^2 + 5 \\ = x^2 + 2x + x + 2 - 3x^2 + 5 \\ = x^2 + 3x + 2 + (-3x^2) + 5 \\ = \underline{-2x^2 + 3x + 7}$$

$$\begin{aligned} B &= (2x+7)(-x-8) + 2x^2 \\ &= -2x^2 - 16x - 7x - 56 + 2x^2 \\ &= \underline{-23x - 56}. \end{aligned}$$

ex 26. 16.

périmètre \triangle : $p(\triangle) = (4x+1) \times 3$
 $= 12x + 3$

périmètre \square : $p(\square) = (4x+1,5) \times 2 + 2x \times 2$
 $= 8x + 3 + 4x$
 $= 12x + 3$

Les 2 périmètres sont égaux pour toute valeur de x .

