Chapitre 3

Auto entrainement

Exercice n° 1

Développer et réduire chacune des expressions littérales suivantes :

$A = 6 \times 8\,x$

$B = 2\,x \times 9$

$C = 9\,x + 5 \times (-4\,x + 3)$

$D = 7 \times (-9\,x - 5) - 4$

$E = 5 \times (-8\,x + 7) - 3\,x - 9$

Exercice n° 2

Développer et réduire :

$A = (6x + 8)(2x + 3)$

$B = (4x - 3)(10x + 9)$

$C = (-7x + 5)(4x - 3)$

$D = (7x - 8)(-4x - 2)$

Exercice n° 3

Développer et réduire chacune des expressions littérales suivantes :

$A = x \times 6\,x$

$B = 2\,x \times 6\,x$

$C = (8\,x + 2) \times (-9\,x + 6) - 6$

$D = (-8\,x + 6) \times (-6\,x + 7) + 4\,x^2$

$E = 4\,x + 1 + (2\,x - 9) \times (3\,x + 8)$

Chapitre 3

Correction

Correction de l'exercice n° 1

$A = 6 \times 8\,x$

$A = 6 \times 8 \times x$

$\boxed{A = 48\,x}$

$B = 2\,x \times 9$

$B = 2 \times x \times 9$

$B = 2 \times 9 \times x$

$\boxed{B = 18\,x}$

$C = 9\,x + 5 \times (-4\,x + 3)$

$C = 9\,x + 5 \times (-4\,x) + 5 \times 3$

$C = 9\,x + 5 \times (-4) \times x + 15$

$C = 9\,x - 20\,x + 15$

$C = (9 - 20)\,x + 15$

$\boxed{C = -11\,x + 15}$

$D = 7 \times (-9\,x - 5) - 4$

$D = 7 \times (-9\,x) + 7 \times (-5) - 4$

$D = 7 \times (-9) \times x - 35 - 4$

$\boxed{D = -63\,x - 39}$

$E = 5 \times (-8\,x + 7) - 3\,x - 9$

$E = 5 \times (-8\,x) + 5 \times 7 - 3\,x - 9$

$E = 5 \times (-8) \times x + 35 - 3\,x - 9$

$E = -40\,x - 3\,x + 35 - 9$

$E = (-40 - 3)\,x + 26$

$\boxed{E = -43\,x + 26}$

Correction de l'exercice n° 2

$$A = (6x + 8)(2x + 3)$$
$$= 6x \times 2x + 6x \times 3 + 8 \times 2x + 8 \times 3$$
$$= 12x^2 + 18x + 16x + 24$$
$$= 12x^2 + 34x + 24$$

$$B = (4x - 3)(10x + 9)$$
$$= 4x \times 10x + 4x \times 9 + (-3) \times 10x + (-3) \times 9$$
$$= 40x^2 + 36x + (-30x) + (-27)$$
$$= 40x^2 + 6x - 27$$

$$C = (-7x + 5)(4x - 3)$$
$$= -7x \times 4x + (-7x) \times (-3) + 5 \times 4x + 5 \times (-3)$$
$$= -28x^2 + 21x + 20x + (-15)$$
$$= -28x^2 + 41x - 15$$

$$D = (7x - 8)(-4x - 2)$$
$$= 7x \times (-4x) + 7x \times (-2) + (-8) \times (-4x) + (-8) \times (-2)$$
$$= -28x^2 + (-14x) + 32x + 16$$
$$= -28x^2 + 18x + 16$$

Correction de l'exercice n° 3

$A = x \times 6\,x$
$A = x \times 6 \times x$
$A = 6 \times x \times x$
$\boxed{A = 6\,x^2}$

$B = 2\,x \times 6\,x$
$B = 2 \times x \times 6 \times x$
$B = 2 \times 6 \times x \times x$
$\boxed{B = 12\,x^2}$

$C = (8\,x + 2) \times (-9\,x + 6) - 6$
$C = 8\,x \times (-9\,x) + 8\,x \times 6 + 2 \times (-9\,x) + 2 \times 6 - 6$
$C = 8 \times x \times (-9) \times x + 8 \times x \times 6 + 2 \times (-9) \times x + 12 - 6$
$C = 8 \times (-9) \times x \times x + 8 \times 6 \times x - 18\,x + 6$
$C = -72\,x^2 + 48\,x - 18\,x + 6$
$C = -72\,x^2 + (48 - 18)\,x + 6$
$\boxed{C = -72\,x^2 + 30\,x + 6}$

$D = (-8\,x + 6) \times (-6\,x + 7) + 4\,x^2$
$D = -8\,x \times (-6\,x) - 8\,x \times 7 + 6 \times (-6\,x) + 6 \times 7 + 4\,x^2$
$D = -8 \times x \times (-6) \times x - 8 \times x \times 7 + 6 \times (-6) \times x + 42 + 4\,x^2$
$D = -8 \times (-6) \times x \times x - 8 \times 7 \times x - 36\,x + 4\,x^2 + 42$
$D = 48\,x^2 - 56\,x + 4\,x^2 - 36\,x + 42$
$D = 48\,x^2 + 4\,x^2 - 56\,x - 36\,x + 42$
$D = (48 + 4)\,x^2 + (-56 - 36)\,x + 42$
$\boxed{D = 52\,x^2 - 92\,x + 42}$

$E = 4\,x + 1 + (2\,x - 9) \times (3\,x + 8)$
$E = 4\,x + 1 + 2\,x \times 3\,x + 2\,x \times 8 - 9 \times 3\,x - 9 \times 8$
$E = 4\,x + 1 + 2 \times x \times 3 \times x + 2 \times x \times 8 - 9 \times 3 \times x - 72$
$E = 4\,x + 1 + 2 \times 3 \times x \times x + 2 \times 8 \times x - 27\,x - 72$
$E = 4\,x + 1 + 6\,x^2 + 16\,x - 27\,x - 72$
$E = 6\,x^2 + 4\,x + 16\,x - 27\,x + 1 - 72$
$E = 6\,x^2 + (4 + 16 - 27)\,x - 71$
$\boxed{E = 6\,x^2 - 7\,x - 71}$