Introduction au calcul littéral
Les exercices résolus

Exercice 1.1

-1 × (-1) = 1	-2 × (-2) = 4
-3 × (-2) = 6	-3 × (-4) = 12
-1 × (+4) = -4	-2 × (+1) = -2
5 × (-2) = -10	3 × (-4) = -4
-4 × (+3) = -12	-7 × (-3) = 21

Exercice 1.2

1. Pour x = 0, on a : A = 2 × 0 = 0
   - B = 2(0) × 2 = 0
   - C = -1 × 0 = 0
   - D = 3 × 4(0) = 0

   Pour x = 1, on a : A = 2 × 1 = 1
   - B = 2(1) × 2 = 4
   - C = -1 × 1 = -1
   - D = 3 × 4(1) = 12

   Pour x = 2, on a : A = 2 × 2 = 4
   - B = 2(4) × 2 = 16
   - C = -1 × 2 = -2
   - D = 3 × 4(-2) = -24

   Pour x = 5, on a : A = 2 × 5 = 10
   - B = 2(5) × 2 = 20
   - C = -1 × 5 = -5
   - D = 3 × 4(5) = 60

2. Expressions simplifiées.

   A = 2 × x = 2x (on peut omettre le symbole × devant une lettre et une parenthèse)
   B = 2x × 2 = 4x
   C = -1 × x = -x
   D = 3 × 4x = 12x

Exercice 1.3

1. Pour x = -1 ; 0 et 2, calculons les expressions :

x	-1	2	3
A = x + (+4)	-1 + (+4) = -1 + 3 = 2	2 + (+4) = 2 + 6 = 8	3 + (+4) = 3 + 4 = 7
B = x - (+5)	-1 - (+5) = -1 - 5 = -6	2 - (+5) = 2 - 5 = -3	3 - (+5) = 3 - 5 = -2
C = 2x + (+1)	2(-1) + (+1) = -2 + 1 = -1	2(2) + (+1) = 4 + 1 = 5	2(3) + (+1) = 6 + 1 = 7
D = 6x² - (+3)	6(-1)² - (+3) = 6 - 3 = 3	6(2)² - (+3) = 6(4) - 3 = 24 - 3 = 21	6(3)² - (+3) = 6(9) - 3 = 51
E = x - (-2)	(-1) - (-2) = -1 + 2 = 1	2 - (-2) = 2 + 2 = 4	3 - (-2) = 3 + 2 = 5
F = -3x - x	-3(-1) - (-1) = 3 + 1 = 4	-3(2) - 2 = -6 - 2 = -8	-3(3) - 3 = -9 - 3 = -12
G = 3x - (-1)	3(-1) - (-1) = -3 + 1 = -2	3(2) - (-1) = 6 + 1 = 7	3(3) - (-1) = 9 + 1 = 10
H = 2x² + (-5)	2(-1)² + (-5) = 2 - 5 = -3	2(2)² + (-5) = 2(4) - 5 = 8 - 5 = 3	2(3)² + (-5) = 2(9) - 5 = 13

2. Expressions simplifiées.

A= x + (+4) = x + 4	B = x - (+5) = x - 5	C = 2x + (+1) = 2x + 1	D = 6x² - (+3) = 6x² - 3
E = x + (-3) = x - 3	F = x - (-2) = x + 2	G = 3x - (-1) = 3x + 1	H = 2x² + (-5) = 2x² - 5

1. Pour x = -1 ; 2 et 3, calculons les expressions :

x	-1	2	3
A = 4x + x	4(-1) + (-1) = -4 - 1 = -5	4(2) + 2 = 8 + 2 = 10	4(3) + 3 = 12 + 3 = 15
B = 3x + 5x	3(-1) + 5(-1) = -3 - 5 = -8	3(2) + 5(2) = 6 + 10 = 16	3(3) + 5(3) = 9 + 15 = 24
C = 7x - 3x	7(-1) - 3(-1) = -7 + 3 = -4	7(2) - 3(2) = 14 - 6 = 8	7(3) - 3(3) = 21 - 9 = 12
D = x - 2x	(-1) - 2(-1) = -1 + 2 = 1	2 - 2(2) = 2 - 4 = -2	3 - 2(3) = 3 - 6 = -3
E = 2x - 7x	2(-1) - 7(-1) = -2 + 7 = 5	2(2) - 7(2) = 4 - 14 = -10	2(3) - 7(3) = 6 - 21 = -15
F = -3x - x	-3(-1) - (-1) = 3 + 1 = 4	-3(2) - 2 = -6 - 2 = -8	-3(3) - 3 = -9 - 3 = -12

2. Expressions simplifiées à l'aide des règles du calcul algébrique.

A = 4x + x = (4 + 1)x = 5x
B = 3x + 5x = (3 + 5)x = 8x
C = 7x - 3x = (7 - 3)x = 4x
D = x - 2x = (1 - 2)x = -x
E = 2x - 7x = (2 - 7)x = -5x
F = -3x - x = (-3 - 1)x = -4x