Travail du mardi
10 novembre

Exercice d'application du cours III 41

A = (x + 5)^2
A = x^2 + 2x * 5 + 5^2
A = x^2 + 10x + 25

B = (3x - 7)^2
B = (3x)^2 - 2 * 3x * 7 + 7^2
B = 9x^2 - 42x + 49

C = (2x - 6)(2x + 6)
C = (2x)^2 - 6^2
C = 4x^2 - 36

D = (4x + 7)^2
D = (4x)^2 + 2 * 4x * 7 + 7^2
D = 16x^2 + 56x + 49

E = \left(\frac{1}{4}x - 2\right)^2
E = \left(\frac{1}{4}x\right)^2 - 2 * \frac{1}{4}x * 2 + 2^2
E = \frac{1}{16}x^2 - x + 4

F = \left(x - \frac{2}{3}\right)\left(x + \frac{2}{3}\right)
F = x^2 - \left(\frac{2}{3}\right)^2
F = x^2 - \frac{4}{9}

G = (7x - 2)^2 - (6x + 1)(6x - 1)
G = (7x - 2)^2 - \left[(6x + 1)(6x - 1)\right]
G = (7x)^2 - 2 * 7x * 2 + 2^2 - \left[(6x)^2 - 1^2\right]
G = 49x^2 - 28x + 4 - \left[36x^2 - 1\right]
G = 49x^2 - 28x + 4 - 36x^2 + 1
G = 49x^2 - 36x^2 - 28x + 4 + 1
G = 13x^2 - 28x + 5
Exercice 3 p. 42.

\[ A = (3x - 2)^2 = (a - b)^2 = a^2 - 2ab + b^2 \]
\[ A = (3x)^2 - 2 \cdot 3x \cdot 2 + 4 \]
\[ A = 9x^2 - 12x + 4 \]

\[ B = (2x + 4)(2x - 4) = (a + b)(a - b) = a^2 - b^2 \]
\[ B = (2x)^2 - 16 \]
\[ B = 4x^2 - 16 \]

\[ C = (6x + 1)^2 = (a + b)^2 = a^2 + 2ab + b^2 \]
\[ C = (6x)^2 + 2 \cdot 6x \cdot 1 + 1 \]
\[ C = 36x^2 + 12x + 1 \]

Exercice 4 p. 42.

\[ A = (7x - 2)^2 \]
\[ A = (7x)^2 - 2 \cdot 7x \cdot 2 + 4 \]
\[ A = 49x^2 - 28x + 4 \]

\[ B = (18 + 4x)^2 \]
\[ B = 8^2 + 2 \cdot 8 \cdot 4x + (4x)^2 \]
\[ B = 64 + 64x + 16x^2 \]

\[ C = (10y - 4)(10y + 4) \]
\[ C = (10y)^2 - 4^2 \]
\[ C = 100y^2 - 16 \]

\[ D = (9t - 7)^2 \]
\[ D = (9t)^2 - 2 \cdot 9t \cdot 7 + 49 \]
\[ D = 81t^2 - 126t + 49 \]

Exercice 5 p. 42.

\[ (3x + 5)^2 = 9x^2 + 2 \cdot 3x \cdot 5 + 25 = 25 + 25 = 5^2 \]
\[ (4x - 3)^2 = 16x^2 - 2 \cdot 4x \cdot 3 + 9 \]
\[ (8x - 4)(8x + 4) = 64x^2 - 16 \]

\[ = 8^2 \]