## Corrigé de l'exercice 1

Factoriser les expressions suivantes.

$A = (-10\,x - 8)^2 - 16$

$A = (-10\,x - 8)^2 - 4^2$

$A = (-10\,x - 8 + 4)(-10\,x - 8 - 4)$

$A =$

$$\boxed{A = (-10\,x - 4)(-10\,x - 12)}$$

$B = (3\,x + 6)(-7\,x + 9) + (-7\,x + 9)^2$

$B = (-7\,x + 9)(3\,x + 6 - 7\,x + 9)$

$$\boxed{B = (-7\,x + 9)(-4\,x + 15)}$$

$C = -(4\,x - 1)(-8\,x - 7) + (4\,x - 1)$

$C = -(4\,x - 1)(-8\,x - 7) + (4\,x - 1) \times 1$

$C = (4\,x - 1)\big(-(-8\,x - 7) + 1\big)$

$C = (4\,x - 1)(8\,x + 7 + 1)$

$$\boxed{C = (4\,x - 1)(8\,x + 8)}$$

$D = -(-10\,x + 5)(8\,x + 7) + (-8\,x - 10)(-10\,x + 5)$

$D = (-10\,x + 5)\big(-(8\,x + 7) - 8\,x - 10\big)$

$D = (-10\,x + 5)(-8\,x - 7 - 8\,x - 10)$

$$\boxed{D = (-10\,x + 5)(-16\,x - 17)}$$

$E = 100\,x^2 - 100$

$E = (10\,x)^2 - 10^2$

$$\boxed{E = (10\,x + 10)(10\,x - 10)}$$

$F = 25\,x^2 - 49 - (5\,x - 7)(6\,x + 1)$

$F = (5\,x)^2 - 7^2 - (5\,x - 7)(6\,x + 1)$

$F = (5\,x - 7)(5\,x + 7) - (5\,x - 7)(6\,x + 1)$

$F = (5\,x - 7)\big(5\,x + 7 - (6\,x + 1)\big)$

$F = (5\,x - 7)(5\,x + 7 - 6\,x - 1)$

$$\boxed{F = (5\,x - 7)(-x + 6)}$$

## Corrigé de l'exercice 2

Factoriser les expressions suivantes.

$A = (-6\,x + 1)^2 - 25$

$A = (-6\,x + 1)^2 - 5^2$

$A = (-6\,x + 1 + 5)(-6\,x + 1 - 5)$

$A =$

$$\boxed{A = (-6\,x + 6)(-6\,x - 4)}$$

$B = (4\,x + 4)^2 + (7\,x - 7)(4\,x + 4)$

$B = (4\,x + 4)(4\,x + 4 + 7\,x - 7)$

$$\boxed{B = (4\,x + 4)(11\,x - 3)}$$

$C = 64\,x^2 - 9$

$C = (8\,x)^2 - 3^2$

$$\boxed{C = (8\,x - 3)(8\,x + 3)}$$

$D = -(2\,x + 1) + (2\,x + 1)(-8\,x + 10)$

$D = -(2\,x + 1) \times 1 + (2\,x + 1)(-8\,x + 10)$

$D = (2\,x + 1)\big(-1 - 8\,x + 10\big)$

$$\boxed{D = (2\,x + 1)(-8\,x + 9)}$$

$E = (7\,x + 3)(-2\,x - 7) - (2\,x - 6)(-2\,x - 7)$

$E = (-2\,x - 7)\big(7\,x + 3 - (2\,x - 6)\big)$

$E = (-2\,x - 7)(7\,x + 3 - 2\,x + 6)$

$$\boxed{E = (-2\,x - 7)(5\,x + 9)}$$

$F = 100\,x^2 - 36 + (8\,x - 1)(10\,x + 6)$

$F = (10\,x)^2 - 6^2 + (8\,x - 1)(10\,x + 6)$

$F = (10\,x + 6)(10\,x - 6) + (8\,x - 1)(10\,x + 6)$

$F = (10\,x + 6)(10\,x - 6 + 8\,x - 1)$

$$\boxed{F = (10\,x + 6)(18\,x - 7)}$$

## Corrigé de l'exercice 3

Factoriser les expressions suivantes.

$A = 16\,x^2 - 4$

$A = (4\,x)^2 - 2^2$

$$\boxed{A = (4\,x + 2)\,(4\,x - 2)}$$

$B = -(-4\,x - 4)\,(-2\,x + 7) + (-2\,x + 7)^2$

$B = (-2\,x + 7)\left(-(-4\,x - 4) - 2\,x + 7\right)$

$B = (-2\,x + 7)\,(4\,x + 4 - 2\,x + 7)$

$$\boxed{B = (-2\,x + 7)\,(2\,x + 11)}$$

$C = (7\,x + 10)^2 - 49$

$C = (7\,x + 10)^2 - 7^2$

$C = (7\,x + 10 + 7)\,(7\,x + 10 - 7)$

$C =$

$$\boxed{C = (7\,x + 17)\,(7\,x + 3)}$$

$D = (9\,x + 10) - (-x - 1)\,(9\,x + 10)$

$D = (9\,x + 10) \times 1 - (-x - 1)\,(9\,x + 10)$

$D = (9\,x + 10)\,(1 - (-x - 1))$

$D = (9\,x + 10)\,(1 + x + 1)$

$$\boxed{D = (9\,x + 10)\,(x + 2)}$$

$E = (x + 1)\,(4\,x - 2) - (5\,x - 7)\,(x + 1)$

$E = (x + 1)\,(4\,x - 2 - (5\,x - 7))$

$E = (x + 1)\,(4\,x - 2 - 5\,x + 7)$

$$\boxed{E = (x + 1)\,(-x + 5)}$$

$F = 100\,x^2 - 49 - (3\,x + 9)\,(10\,x + 7)$

$F = (10\,x)^2 - 7^2 - (3\,x + 9)\,(10\,x + 7)$

$F = (10\,x + 7)\,(10\,x - 7) - (3\,x + 9)\,(10\,x + 7)$

$F = (10\,x + 7)\,(10\,x - 7 - (3\,x + 9))$

$F = (10\,x + 7)\,(10\,x - 7 - 3\,x - 9)$

$$\boxed{F = (10\,x + 7)\,(7\,x - 16)}$$

## Corrigé de l'exercice 4

Factoriser les expressions suivantes.

$A = -(8\,x + 1)\,(-5\,x - 7) - (7\,x - 9)\,(8\,x + 1)$

$A = (8\,x + 1)\left(-(-5\,x - 7) - (7\,x - 9)\right)$

$A = (8\,x + 1)\,(5\,x + 7 - 7\,x + 9)$

$$\boxed{A = (8\,x + 1)\,(-2\,x + 16)}$$

$B = (3\,x + 6)^2 - 4$

$B = (3\,x + 6)^2 - 2^2$

$B = (3\,x + 6 + 2)\,(3\,x + 6 - 2)$

$B =$

$$\boxed{B = (3\,x + 8)\,(3\,x + 4)}$$

$C = -(-6\,x + 3)\,(4\,x + 9) + 16\,x^2 - 81$

$C = -(-6\,x + 3)\,(4\,x + 9) + (4\,x)^2 - 9^2$

$C = -(-6\,x + 3)\,(4\,x + 9) + (4\,x + 9)\,(4\,x - 9)$

$C = (4\,x + 9)\left(-(-6\,x + 3) + 4\,x - 9\right)$

$C = (4\,x + 9)\,(6\,x - 3 + 4\,x - 9)$

$$\boxed{C = (4\,x + 9)\,(10\,x - 12)}$$

$D = 25\,x^2 - 64$

$D = (5\,x)^2 - 8^2$

$$\boxed{D = (5\,x - 8)\,(5\,x + 8)}$$

$E = -(-2\,x - 4) + (-2\,x - 4)\,(-8\,x - 4)$

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

$E = (-2\,x - 4)\left(-1 - 8\,x - 4\right)$

$$\boxed{E = (-2\,x - 4)\,(-8\,x - 5)}$$

$F = -(9\,x + 3)\,(10\,x + 7) + (10\,x + 7)^2$

$F = (10\,x + 7)\left(-(9\,x + 3) + 10\,x + 7\right)$

$F = (10\,x + 7)\,(-9\,x - 3 + 10\,x + 7)$

$$\boxed{F = (10\,x + 7)\,(x + 4)}$$

## Corrigé de l'exercice 5

Factoriser les expressions suivantes.

$A = (6\,x - 1)\,(7\,x + 7) + 36\,x^2 - 1$

$A = (6\,x - 1)\,(7\,x + 7) + (6\,x)^2 - 1^2$

$A = (6\,x - 1)\,(7\,x + 7) + (6\,x - 1)\,(6\,x + 1)$

$A = (6\,x - 1)\,(7\,x + 7 + 6\,x + 1)$

$$\boxed{A = (6\,x - 1)\,(13\,x + 8)}$$

$B = (6\,x + 4) + (6\,x + 4)\,(5\,x + 4)$

$B = (6\,x + 4) \times 1 + (6\,x + 4)\,(5\,x + 4)$

$B = (6\,x + 4)\,(1 + 5\,x + 4)$

$$\boxed{B = (6\,x + 4)\,(5\,x + 5)}$$

$C = x^2 - 81$

$C = x^2 - 9^2$

$$\boxed{C = (x - 9)\,(x + 9)}$$

$D = (-2\,x + 3)\,(9\,x - 2) - (-10\,x - 7)\,(9\,x - 2)$

$D = (9\,x - 2)\,\big( -2\,x + 3 - (-10\,x - 7)\big)$

$D = (9\,x - 2)\,(-2\,x + 3 + 10\,x + 7)$

$$\boxed{D = (9\,x - 2)\,(8\,x + 10)}$$

$E = (-4\,x + 6)^2 - (-4\,x + 6)\,(4\,x + 3)$

$E = (-4\,x + 6)\,\big( -4\,x + 6 - (4\,x + 3)\big)$

$E = (-4\,x + 6)\,(-4\,x + 6 - 4\,x - 3)$

$$\boxed{E = (-4\,x + 6)\,(-8\,x + 3)}$$

$F = (-4\,x - 8)^2 - 25$

$F = (-4\,x - 8)^2 - 5^2$

$F = (-4\,x - 8 + 5)\,(-4\,x - 8 - 5)$

$F =$

$$\boxed{F = (-4\,x - 3)\,(-4\,x - 13)}$$

## Corrigé de l'exercice 6

Factoriser les expressions suivantes.

$A = (6\,x - 3)^2 - 4$

$A = (6\,x - 3)^2 - 2^2$

$A = (6\,x - 3 + 2)\,(6\,x - 3 - 2)$

$A =$

$$\boxed{A = (6\,x - 1)\,(6\,x - 5)}$$

$B = 49\,x^2 - 100 - (7\,x + 10)\,(9\,x - 8)$

$B = (7\,x)^2 - 10^2 - (7\,x + 10)\,(9\,x - 8)$

$B = (7\,x + 10)\,(7\,x - 10) - (7\,x + 10)\,(9\,x - 8)$

$B = (7\,x + 10)\,\big(7\,x - 10 - (9\,x - 8)\big)$

$B = (7\,x + 10)\,(7\,x - 10 - 9\,x + 8)$

$$\boxed{B = (7\,x + 10)\,(-2\,x - 2)}$$

$C = (7\,x - 1)\,(3\,x + 1) + (7\,x - 1)\,(3\,x - 5)$

$C = (7\,x - 1)\,(3\,x + 1 + 3\,x - 5)$

$$\boxed{C = (7\,x - 1)\,(6\,x - 4)}$$

$D = -(-5\,x + 8) - (-5\,x - 6)\,(-5\,x + 8)$

$D = -(-5\,x + 8) \times 1 - (-5\,x - 6)\,(-5\,x + 8)$

$D = (-5\,x + 8)\,\big( -1 - (-5\,x - 6)\big)$

$D = (-5\,x + 8)\,(-1 + 5\,x + 6)$

$$\boxed{D = (-5\,x + 8)\,(5\,x + 5)}$$

$E = 16\,x^2 - 9$

$E = (4\,x)^2 - 3^2$

$$\boxed{E = (4\,x + 3)\,(4\,x - 3)}$$

$F = (x - 5)\,(-3\,x + 10) + (-3\,x + 10)^2$

$F = (-3\,x + 10)\,(x - 5 - 3\,x + 10)$

$$\boxed{F = (-3\,x + 10)\,(-2\,x + 5)}$$