

25

Exercice résolu.**Factoriser :**

$$A = 2(2x - 5)(4 - 3x) - (3 + 5x)(2x - 5) + 4(2x + 1)(2x - 5).$$

Solution

Les produits $2(2x - 5)(4 - 3x)$, $(3 + 5x)(2x - 5)$ et $4(2x + 1)(2x - 5)$, ont un facteur commun : $(2x - 5)$, donc :

$$A = (2x - 5)[2(4 - 3x) - (3 + 5x) + 4(2x + 1)];$$

$$A = (2x - 5)(8 - 6x - 3 - 5x + 8x + 4);$$

$$A = (2x - 5)(9 - 3x);$$

$$A = 3(2x - 5)(3 - x).$$

Nous venons de mettre A sous la forme d'un produit, c'est-à-dire nous avons factorisé A .

26

Factoriser :

$$A = (2x - 1)(3x - 2) - (2x - 1)(4x - 1);$$

$$B = (3x + 5)(3x - 3) - (3x + 5)(2x + 1);$$

$$C = (x - 1)(3 + 2x) - (x - 1)(x + 5);$$

$$D = (5x - 2)(3x + 4) - (5x - 2)(7 - 2x).$$

27

Factoriser :

$$A = (5x - 2)(7 - 3x) - (5x - 2)(4x + 5) + (5x - 2)(7 - x);$$

$$B = (2x - 1)(7 - 2x) - (2x - 1)(5x + 4) + (2x - 1)(7 + x);$$

$$C = 3(1 - 2x)(5x - 3) + 2(5x - 2)(1 - 2x) - 4(1 - 2x)(7x - 2);$$

$$D = (2x - 7)(5x - 3) - (2x - 7)(3 + x) + (2x - 7)(5x - 2);$$

$$E = (3x - 2)(5x - 1) + 2(7x - 2)(3x - 2) - 4(3x - 2)(5x - 3);$$

$$F = (3x - 2)(7 - 2x) - (3x - 2)(4 - 2x) + (3x - 2)(5 + x).$$

28

Exercice résolu**Factoriser :**

$$A = 2(7 - 3x)(4 + x) - 5(3 - 2x)(4 + x) + (4 + x),$$

Solution

$$A = (4 + x)[2(7 - 3x) - 5(3 - 2x) + 1],$$

$$A = (4 + x)(14 - 6x - 15 + 10x + 1),$$

$$A = 4x(4 + x).$$

29

Factoriser :

$$A = 2(7 + 2x)(5 - x) - 3(9 - 2x)(7 + 2x) + (7 + 2x);$$

$$B = 2(5 + 3x)(7 - x) - 3(4 - 3x)(5 + 3x) + (5 + 3x);$$

$$C = 4(5 - 8x)(3 + 7x) + (5 - 8x) + 3(5 - 4x)(5 - 8x);$$

$$D = 3(7x - 2)(5 + 4x) - 2(7 - 4x)(7x - 2) - (7x - 2).$$

30 **Factoriser :**

$$A = 5(3x - 1)(2x + 3) - 3(2x + 3)(5 - 3x) + 2x + 3;$$

$$B = 2(7 - 3x)(4x - 3) - 5(4x - 3)(6 + 2x) - 4x + 3;$$

$$C = (4 - 5x)(4 - 3x) - 3(4 - 3x)(6 - 4x) - 4 + 3x;$$

$$D = (6 - 7x)(5x + 8) - 5x - 8 - 3(5x + 8)(7 - x).$$

31 **Factoriser :**

$$A = 7(2 - x)(13 + 4x) - (13 + 4x)^2 - (13 + 4x);$$

$$B = 2(4 - 3x)(5 + x) - 3(4 - 3x)^2 + 2(5 - 2x)(4 - 3x);$$

$$C = 5(7 - x)(3x - 2) - 3(7 - x)^2 - 2(7 - x)(4 + x);$$

$$D = 5(6 - 5x)(5x - 2) - (6 - 5x) + 3(6 - 5x)^2.$$

32

Exercice résolu**Factoriser :**

$$A = 5(4x - 6)(5x + 2) + 3(7 - 2x)(10x - 15) - 6x + 9,$$

Solution

$$A = 5[2(2x - 3)(5x + 2) + 3[5(7 - 2x)(2x - 3)]] - 3(2x - 3),$$

$$A = 10(2x - 3)(5x + 2) + 15(7 - 2x)(2x - 3) - 3(2x - 3),$$

$$A = (2x - 3)[10(5x + 2) + 15(7 - 2x) - 3],$$

$$A = (2x - 3)(50x + 20 + 105 - 30x - 3),$$

$$A = (2x - 3)(20x + 122),$$

$$A = 2(2x - 3)(10x + 61).$$

33 **Factoriser :**

$$A = 3(3x - 6)(2 - x) - 5(2x - 4)(x + 3) + 3(4x - 8)(3 - x);$$

$$B = (4 - 3x)(5 + x) - (8 - 6x)(7 + x) + (12 - 9x);$$

$$C = (5 - x)(3 + 2x) - (10 - 2x)(4 + x) + (15 - 3x)(6 + x);$$

$$D = (8x - 4)(2 + x) - (14x - 7)(3 + x) + (5 + x)(16x - 8).$$