



Factorisation

Exercice n°1 : Souligner le facteur commun dans chaque expression.

$\mathcal{A} = 5x + 5$	$\mathcal{G} = -2(4x - 3) + (4x - 3)(2x + 8)$
$\mathcal{B} = 3x - 3$	$\mathcal{H} = (3x + 6)(7x + 1) + (3x + 6)(5x - 2)$
$\mathcal{C} = -9x - 9$	$\mathcal{I} = (x + 2)^2 + (x + 2)(x + 3)$
$\mathcal{D} = 15x + 4x$	$\mathcal{J} = (2x - 4)(4 - x) - (2x - 4)^2$
$\mathcal{E} = 4x + 3x^2$	$\mathcal{K} = (x + 4)(3 + 4x) + (3 + 4x)(8 - 2x)$
$\mathcal{F} = -x^2 - x^4$	

Exercice n°2 : Écrire les termes soulignés sous forme d'un produit puis factoriser l'expression.

$\mathcal{A} = 4x + \underline{8}$	$= 4x + 4 \times 2$	$= 4(x + 2)$	$\mathcal{A} = \underline{14x} + \underline{21}$	$= 7 \times 2x + 7 \times 3$	$= 7(2x + 3)$
$\mathcal{B} = 4x + \underline{20}$	$=$	$=$	$\mathcal{B} = \underline{64x} - \underline{40}$	$=$	$=$
$\mathcal{C} = 2x - \underline{4}$	$=$	$=$	$\mathcal{C} = \underline{56x} + \underline{63}$	$=$	$=$
$\mathcal{D} = 27x + \underline{27}$	$=$	$=$	$\mathcal{D} = \underline{12x} + \underline{10}$	$=$	$=$
$\mathcal{E} = 6x + \underline{12}$	$=$	$=$	$\mathcal{E} = -\underline{70x} - \underline{7}$	$=$	$=$
$\mathcal{F} = 3x + \underline{9}$	$=$	$=$	$\mathcal{F} = -\underline{14x} - \underline{12}$	$=$	$=$
$\mathcal{G} = 10x + \underline{40}$	$=$	$=$	$\mathcal{G} = \underline{18x} + \underline{48}$	$=$	$=$
$\mathcal{H} = -9x - \underline{81}$	$=$	$=$	$\mathcal{H} = \underline{16x} + \underline{10}$	$=$	$=$
$\mathcal{I} = 4x + \underline{32}$	$=$	$=$	$\mathcal{I} = \underline{8x} + \underline{14}$	$=$	$=$
$\mathcal{J} = 6x + \underline{30}$	$=$	$=$	$\mathcal{J} = -\underline{15x} - \underline{9}$	$=$	$=$
$\mathcal{K} = 18x - \underline{36}$	$=$	$=$	$\mathcal{K} = -\underline{7x} - \underline{28}$	$=$	$=$

Exercice n°3 : Factoriser les expressions suivantes et réduire comme dans l'exemple.

$\mathcal{A} = 2(2x + 3) + 5(2x + 3)$	$\mathcal{B} = 9(-x - 1) + 4(-x - 1)$	$\mathcal{C} = 7(3x + 1) - 2(3x + 1)$
$\mathcal{A} = (2x + 3)(2 + 5)$	$\mathcal{B} =$	$\mathcal{C} =$
$\mathcal{A} = 7(x + 1)$	$\mathcal{B} =$	$\mathcal{C} =$
$\mathcal{D} = 6(x - 2) - 8x(x - 2)$	$\mathcal{E} = x(5x + 1) + 2x(5x + 1)$	$\mathcal{F} = 2x(x + 1) - 4x(x + 1)$
$\mathcal{D} =$	$\mathcal{E} =$	$\mathcal{F} =$
	$\mathcal{E} =$	$\mathcal{F} =$
$\mathcal{G} = 3(x + 5) + 6(x + 5) - (x + 5)$	$\mathcal{H} = -x^2(6x - 8) + 3x(6x - 8) - 8(6x - 8)$	
$\mathcal{G} =$	$\mathcal{H} =$	
$\mathcal{G} =$		



Factorisation

Correction

Exercice n°1 : Souligner le facteur commun dans chaque expression.

$\mathcal{A} = \underline{5}x + \underline{5}$	$\mathcal{G} = -2(\underline{4x - 3}) + (\underline{4x - 3})(2x + 8)$
$\mathcal{B} = \underline{3}x - \underline{3}$	$\mathcal{H} = (\underline{3x + 6})(7x + 1) + (\underline{3x + 6})(5x - 2)$
$\mathcal{C} = \underline{-9}x \underline{-9}$	$\mathcal{I} = (x + 2)^2 + (x + 2)(x + 3)$
$\mathcal{D} = 15\underline{x} + 4\underline{x}$	$\mathcal{I} = (\underline{x + 2})(x + 2) + (\underline{x + 2})(x + 3)$
$\mathcal{E} = 4x + 3x^2 = 4\underline{x} + 3\underline{x} \times x$	$\mathcal{J} = (2x - 4)(4 - x) - (2x - 4)^2$
$\mathcal{F} = -x^2 - x^4 = \underline{-x^2 - x^2} \times x^2$	$\mathcal{J} = (\underline{2x - 4})(4 - x) - (\underline{2x - 4})(2x - 4)$
	$\mathcal{K} = (x + 4)(\underline{3 + 4x}) + (\underline{3 + 4x})(8 - 2x)$

Exercice n°2 : Écrire les termes soulignés sous forme d'un produit puis factoriser l'expression.

$\mathcal{A} = 4x + \underline{8} = 4x + 4 \times 2 = 4(x + 2)$	$\mathcal{A} = \underline{14x} + \underline{21} = 7 \times 2x + 7 \times 3 = 7(2x + 3)$
$\mathcal{B} = 4x + \underline{20} = 4x + 4 \times 5 = 4(x + 5)$	$\mathcal{B} = \underline{64x} - \underline{40} = 8 \times 4x - 8 \times 5 = 8(8x - 5)$
$\mathcal{C} = 2x - \underline{4} = 2x - 2 \times 1 = 2(x - 1)$	$\mathcal{C} = \underline{56x} + \underline{63} = 7 \times 8x - 7 \times 9 = 7(8x + 9)$
$\mathcal{D} = 27x + \underline{27} = 27x + 27 \times 1 = 27(x + 1)$	$\mathcal{D} = \underline{12x} + \underline{10} = 2 \times 6x - 2 \times 5 = 2(6x + 5)$
$\mathcal{E} = 6x + \underline{12} = 6x + 6 \times 2 = 6(x + 2)$	$\mathcal{E} = -\underline{70x} - \underline{7} = -7 \times 10x - 7 \times 1 = -7(10x + 1)$
$\mathcal{F} = 3x + \underline{9} = 3x + 3 \times 3 = 3(x + 3)$	$\mathcal{F} = -\underline{14x} - \underline{12} = -2 \times 7x - 2 \times 6 = -2(7x + 6)$
$\mathcal{G} = 10x + \underline{40} = 10x + 10 \times 4 = 10(x + 4)$	$\mathcal{G} = \underline{18x} + \underline{48} = 6 \times 3x + 6 \times 8 = 6(3x + 8)$
$\mathcal{H} = -9x - \underline{81} = -9x - 9 \times 9 = -9(x + 9)$	$\mathcal{H} = \underline{16x} + \underline{10} = 2 \times 8x + 2 \times 5 = 2(8x + 5)$
$\mathcal{I} = 4x + \underline{32} = 4x + 4 \times 8 = 4(x + 8)$	$\mathcal{I} = \underline{8x} + \underline{14} = 2 \times 4x + 2 \times 7 = 2(4x + 7)$
$\mathcal{J} = 6x + \underline{30} = 6x + 6 \times 5 = 6(x + 5)$	$\mathcal{J} = -\underline{15x} - \underline{9} = -3 \times 5x - 3 \times 3 = -3(5x + 3)$
$\mathcal{K} = 18x - \underline{36} = 18x - 18 \times 2 = 18(x - 2)$	$\mathcal{K} = -\underline{7x} - \underline{28} = -7 \times x - 7 \times 4 = -7(x + 4)$

Exercice n°3 : Factoriser les expressions suivantes et réduire comme dans l'exemple.

$\mathcal{A} = 2(2x + 3) + 5(2x + 3)$ $\mathcal{A} = (2x + 3)(2 + 5)$ $\mathcal{A} = 7(x + 1)$	$\mathcal{B} = 9(-x - 1) + 4(-x - 1)$ $\mathcal{B} = (-x - 1)(9 + 4)$ $\mathcal{B} = 13(-x - 1)$	$\mathcal{C} = 7(3x + 1) - 2(3x + 1)$ $\mathcal{C} = (3x + 1)(7 - 2)$ $\mathcal{C} = 5(3x + 1)$
$\mathcal{D} = 6(x - 2) - 8x(x - 2)$ $\mathcal{D} = (x - 2)(6 - 8x)$	$\mathcal{E} = x(5x + 1) + 2x(5x + 1)$ $\mathcal{E} = (5x + 1)(x + 2x)$ $\mathcal{E} = 3x(5x + 1)$	$\mathcal{F} = 2x(x + 1) - 4x(x + 1)$ $\mathcal{F} = (x + 1)(2x - 4x)$ $\mathcal{F} = 2x(x + 1)$

$$\mathcal{G} = 3(x + 5) + 6(x + 5) - (x + 5)$$

$$\mathcal{G} = (x + 5)(3 + 6 - 1)$$

$$\mathcal{G} = 8(x + 5)$$

$$\mathcal{H} = -x^2(6x - 8) + 3x(6x - 8) - 8(6x - 8)$$

$$\mathcal{H} = (6x - 8)(-x^2 + 3x - 8)$$