



Factorisation

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

$A = 5x + 5$	$G = -2(4x - 3) + (4x - 3)(2x + 8)$
$B = 3x - 3$	$H = (3x + 6)(7x + 1) + (3x + 6)(5x - 2)$
$C = -9x - 9$	$I = (x + 2)^2 + (x + 2)(x + 3)$
$D = 15x + 4x$	$J = (2x - 4)(4 - x) - (2x - 4)^2$
$E = 4x + 3x^2$	$K = (x + 4)(3 + 4x) + (3 + 4x)(8 - 2x)$
$F = -x^2 - x4$	

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

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

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

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

$$G = 3(x + 5) + 6(x + 5)$$

$$- (x + 5)$$

$$G =$$

$$G =$$

$$H = -x^2(6x - 8) + 3x(6x - 8) - 8(6x - 8)$$

$$H =$$

$$H =$$



Factorisation

Correction

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

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

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

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

I =	$4x + \underline{32}$	=	$\frac{4x + 4 \times}{8}$	=	$4(x + 8)$	I =	$\frac{8x + \underline{14}}{}$	=	$\frac{2 \times 4x + 2}{\times 7}$	=	$2(4x + 7)$
J =	$6x + \underline{30}$	=	$\frac{6x + 6 \times}{5}$	=	$6(x + 5)$	J =	$\frac{-15x}{-9}$	=	$\frac{-3 \times 5x -}{3 \times 3}$	=	$-3(5x + 3)$
K =	$18x - \underline{36}$	=	$\frac{18x - 18}{\times 2}$	=	$18(x - 2)$	K =	$\frac{-7x -}{28}$	=	$\frac{-7 \times x - 7}{\times 4}$	=	$-7(x + 4)$

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

$A = 2(2x + 3) + 5(2x + 3)$ $A = (2x + 3)(2 + 5)$ $A = 7(x + 1)$	$B = 9(-x - 1) + 4(-x - 1)$ $B = (-x - 1)(9 + 4)$ $B = 13(-x - 1)$	$C = 7(3x + 1) - 2(3x + 1)$ $C = (3x + 1)(7 - 2)$ $C = 5(3x + 1)$
$D = 6(x - 2) - 8x(x - 2)$ $D = (x - 2)(6 - 8x)$	$E = x(5x + 1) + 2x(5x + 1)$ $E = (5x + 1)(x + 2x)$ $E = 3x(5x + 1)$	$F = 2x(x + 1) - 4x(x + 1)$ $F = (x + 1)(2x - 4x)$ $F = -2x(x + 1)$
$G = 3(x + 5) + 6(x + 5) - (x + 5)$ $G = (x + 5)(3 + 6 - 1)$ $G = 8(x + 5)$	$H = -x^2(6x - 8) + 3x(6x - 8) - 8(6x - 8)$ $H = (6x - 8)(-x^2 + 3x - 8)$	