

THEME N°1 : OPERATIONS SUR LES NOMBRES RELATIFS CORRECTION

Exercice 1 :

Effectue les calculs suivants.

$A = 5 + (-8)$ $A = -3$	$B = (-12) + (-17)$ $B = -29$	$C = (-10) + 6$ $C = -4$	$D = (-16) + 24$ $D = 8$
$E = 15 + (-50)$ $E = -35$	$F = (-100) + 40$ $F = -60$	$G = 4 - 10$ $G = 4 + (-10)$ $G = -6$	$H = -7 - 11$ $H = -7 + (-11)$ $H = -18$
$I = 5 - (-5)$ $I = 5 + 5$ $I = 10$	$J = -14 - (-30)$ $J = -14 + 30$ $J = 16$	$K = 31 - 45$ $K = 31 + (-45)$ $K = -14$	$L = -6 - 21$ $L = -6 + (-21)$ $L = -27$

Exercice 2 :

Calcule en regroupant astucieusement les termes. N'oublie pas de transformer les soustractions en additions, puis de changer le signe du nombre juste derrière.

$$A = (-12) + 28 + (-13) + 24 + (-9) + 6$$

$$A = (-12) + (-13) + (-9) + 28 + 24 + 6$$

$$A = (-34) + 58$$

$$A = 24$$

$$B = (-23) + 9 + (-51) + (-9) + 23 + 51 + 42$$

$$B = (-23) + 23 + (-51) + 51 + (-9) + 9 + 42$$

$$B = 0 + 0 + 0 + 42$$

$$B = 42$$

$$C = 12 - 6 + (-2) + 7 - 18$$

$$C = 12 + (-6) + (-2) + 7 + (-18)$$

$$C = (-6) + (-2) + (-18) + 12 + 7$$

$$C = (-26) + 19$$

$$C = -7$$

$$D = (-11) + (-14) - 31 - (-21) + 30$$

$$D = (-11) + (-14) + (-31) + 21 + 30$$

$$D = (-56) + 51$$

$$D = -5$$

$$E = 11 - 25 - 31 - 29 + 59$$

$$E = 11 + (-25) + (-31) + (-29) + 59$$

$$E = (-25) + (-31) + (-29) + 59 + 11$$

$$E = (-85) + 70$$

$$E = -15$$

$$F = -7 + 5 - 2 - (-13) + 12 - 3$$

$$F = -7 + 5 + (-2) + 13 + 12 + (-3)$$

$$F = -7 + (-2) + (-3) + 5 + 13 + 12$$

$$F = -12 + 30$$

$$F = 18$$

$$G = -23 + 44 - 21 - (-75)$$

$$G = -23 + 44 + (-21) + 75$$

$$G = -23 + (-21) + 44 + 75$$

$$G = -44 + 119$$

$$G = 75$$

$$H = 14 - 23 - (-56) - 33 - 4$$

$$H = 14 + (-23) + 56 + (-33) + (-4)$$

$$H = (-23) + (-33) + (-4) + 14 + 56$$

$$H = (-60) + 70$$

$$H = 10$$

Exercice 3 :

Effectue les multiplications suivantes.

$A = -8 \times 2$ $A = -16$	$B = 3 \times (-6)$ $B = -18$	$C = -4 \times (-9)$ $C = 36$	$D = -3 \times 7$ $D = -21$	$E = -9 \times (-5)$ $E = 45$
$F = 7 \times (-5)$ $F = -35$	$G = 6 \times (-8)$ $G = -48$	$H = (-3) \times (-12)$ $H = 36$	$I = -10 \times 5,25$ $I = -52,5$	$J = 0,1 \times (-40)$ $J = -4$

Exercice 4 :

Détermine le signe du produit, puis calcule astucieusement.

$$B = -10 \times 6 \times (-1) \times 4$$

$$B = + \left(\underbrace{10 \times 6} \times \underbrace{1 \times 4} \right)$$

$$B = + (60 \times 4)$$

$$B = 240$$

$$C = (-5) \times (-7) \times 10 \times 2 \times (-10)$$

$$C = -(5 \times 7 \times 10 \times 2 \times 10)$$

$$C = -(\underbrace{5 \times 2}_{10} \times \underbrace{10 \times 10}_{100} \times 7)$$

$$C = -(10 \times 100 \times 7)$$

$$C = -7000$$

$$D = -4 \times (-2) \times (-1000) \times (-25)$$

$$D = +(4 \times 2 \times 1000 \times 25)$$

$$D = +(\underbrace{4 \times 25}_{100} \times 1000 \times 2)$$

$$D = +(100 \times 1000 \times 2)$$

$$D = 200\,000$$

Exercice 5 :

Effectue les divisions suivantes.

$A = 50 \div (-10)$ $A = -5$	$B = (-42) \div (-6)$ $B = 7$	$C = -30 \div 5$ $C = -6$
$D = (-45) \div (-9)$ $D = 5$	$E = 140 \div (-10)$ $E = -14$	

Exercice 6 : Calcule en indiquant les étapes intermédiaires.

$A = 7 + \underbrace{(-6) \times 4}$ $A = 7 + (-24)$ $A = -17$	$B = \underbrace{(-7 - 2)} \div \underbrace{(5 - 8)}$ $B = (-9) \div (-3)$ $B = 3$
$C = -8 \times \underbrace{(2 - 11)} + (-3)$ $C = \underbrace{-8 \times (-9)} + (-3)$ $C = 72 + (-3)$ $C = 69$	$D = \underbrace{-25 \div 5} + \underbrace{(-4) \times (-10)}$ $D = -5 + 40$ $D = 35$
$E = 3 - [7 - \underbrace{(-1) \times 5}]$ $E = 3 - [7 - (-5)]$ $E = 3 - [7 + 5]$ $E = 3 - 12$ $E = -9$	$F = \underbrace{(15 - 22)} \times [9 - \underbrace{15 \div (-3)}]$ $F = (-7) \times [9 - (-5)]$ $F = (-7) \times [9 + 5]$ $F = (-7) \times 14$ $F = -98$