

Exercice 1

Sans calculatrice, effectuer les calculs suivants :

$$A=(+2)+(-5)$$

$$B=(-3)+(+7)+(+3)$$

$$C=(-7)+(-2)+(+4)+(-1)$$

$$D=(-3)-(-4)$$

$$E=(+7)-(-2)+(+4)$$

$$F=(+5)+(-4)-(+7)$$

Correction

$$A=(+2)+(-5)=-3$$

$$B=(-3)+(+7)+(+3)=(+7)=7$$

$$C=(-7)+(-2)+(+4)+(-1)=-6$$

$$D=(-3)-(-4)=(-3)+(+4)=(+1)=1$$

$$E=(+7)-(-2)+(+4)=(+7)+(+2)+(+4)=(+13)=13$$

$$F=(+5)+(-4)-(+7)=(+5)+(-4)+(-7)=(-6)=-6$$

Exercice 2

Sans calculatrice, effectuer les calculs suivants :

$$A=(-4)\times(-3)$$

$$B=(+2,5)\times(-5)$$

$$C=(-2,4)\times(-1,5)$$

$$D=2\times(-1)\times(-3)$$

Correction

$$A=(-4)\times(-3)=(+12)=12$$

$$B=(+2,5)\times(-5)=(-12,5)=-12,5$$

$$C=(-2,4)\times(-1,5)=(+3,6)=3,6$$

$$D=2\times(-1)\times(-3)=(+6)=6$$

Exercice 3

Quel est le résultat du produit de 303 facteurs tous égaux à (-1) ? Justifier.

Correction

Il y a 303 facteurs négatifs, 303 est impair donc le résultat sera négatif.

Or le produit de 303 facteurs tous égaux à 1 vaut 1.

On déduit que le produit vaut (-1).

Exercice 4

Sans calculatrice, effectuer les calculs suivants :

$$A = (-3) \times [3 - (+5)] \quad B = 4 - [5 \times (-2) + (-2)] \quad C = -4 \times [3 + (-4) \times (-2 - (-3))]$$

Correction

$$A = (-3) \times [3 - (+5)] = (-3) \times [3 + (-5)] = (-3) \times (-2) = (+6) = 6$$

$$B = 4 - [5 \times (-2) + (-2)] = 4 - [(-10) + (-2)] = 4 - (-12) = 4 + (+12) = (+16) = 16$$

$$C = -4 \times [3 + (-4) \times (-2 - (-3))] = -4 \times [3 + (-4) \times (-2 + 3)] = -4 \times [3 + (-4) \times 1]$$

$$C = -4 \times (3 - 4) = -4 \times (-1) = (+4) = 4$$

Exercice 5

Sans calculatrice, effectuer les calculs suivants :

$$A = (+3) \times (-2) \times (+4) \times (-1) \times (-2)$$

$$B = (-2) \times (+5) \times (-1) \times (-5) \times (-2)$$

$$C = (-8) - 4 \times (+5)$$

$$D = 5 \times (-7 + 10) - 12$$

Correction

$$A = (+3) \times (-2) \times (+4) \times (-1) \times (-2) = -48$$

$$B = (-2) \times (+5) \times (-1) \times (-5) \times (-2) = 100$$

$$C = (-8) - 4 \times (+5) = -8 - 20 = -28$$

$$D = 5 \times (-7 + 10) - 12 = 5 \times (+3) - 12 = 15 - 12 = 3$$

Exercice 6

Sans calculatrice, effectuer les calculs suivants :

$$A = (+3) - (-7) + (+24) : (-6)$$

$$B = (-3) + (-4) \times (-6) + (-21) : (-7)$$

$$C = (-36) : (-9) - [(-4) \times (-3) + (-21) : (-3)]$$

$$D = (23 - 27) \times (14,2 - 16,7)$$

Correction

$$A = (+3) - (-7) + (+24) : (-6) = (+3) - (-7) + (-4) = 3 + 7 - 4 = 6$$

$$B = (-3) + (-4) \times (-6) + (-21) : (-7) = (-3) + (+24) + (+3) = (+24) = 24$$

$$C = (-36) : (-9) - [(-4) \times (-3) + (-21) : (-3)] = (-36) : (-9) - [(+12) + (+7)]$$

$$C = (-36) : (-9) - (+19) = (+4) - (+19) = (+4) + (-19) = (-15) = -15$$

$$D = (23 - 27) \times (14,2 - 16,7) = (-4) \times (-2,5) = (+10) = 10$$

Exercice 7

Sans calculatrice, effectuer les calculs suivants :

$$A = 6 + \frac{24 - 66}{3 - 9}$$

$$B = \frac{(-7) \times 8 + 6}{-21 - (-2) \times 13}$$

$$C = \frac{12 \times (1 - 5)}{-3 - 3}$$

Correction

$$A = 6 + \frac{24 - 66}{3 - 9} = 6 + \frac{-42}{-6} = 6 + 7 = 13$$

$$B = \frac{(-7) \times 8 + 6}{-21 - (-2) \times 13} = \frac{-56 + 6}{-21 + 26} = \frac{-50}{5} = -10$$

$$C = \frac{12 \times (1 - 5)}{-3 - 3} = \frac{12 \times (-4)}{-6} = \frac{-48}{-6} = 8$$

Exercice 8

Sans calculatrice, effectuer les calculs suivants :

$$A=16-5\times 4$$

$$B=8\times 4-5\times 6$$

$$C=9-3:3$$

$$D=-7\times(3+6)$$

$$E=(-2-4)\times(6-8)$$

$$F=7-[6-(3-8)]$$

Correction

$$A=16-5\times 4=16-20=-4$$

$$B=8\times 4-5\times 6=32-30=2$$

$$C=9-3:3=9-1=8$$

$$D=-7\times(3+6)=-7\times 9=-63$$

$$E=(-2-4)\times(6-8)=(-6)\times(-2)=12$$

$$F=7-[6-(3-8)]=7-[6-(-5)]=7-(6+5)=7-11=-4$$

Exercice 9

Sans calculatrice, effectuer les calculs suivants sachant que $a=-6$; $b=2$ et $c=-4$

$$a+bc$$

$$(a+b)\times c$$

$$a+\frac{b}{c}$$

$$\frac{a+b}{c}$$

Correction

$$a+bc=(-6)+2\times(-4)=-6-8=-14$$

$$(a+b)\times c=(-6+2)\times(-4)=(-4)\times(-4)=16$$

$$a+\frac{b}{c}=-6+\frac{2}{-4}=-6-\frac{1}{2}=-\frac{12}{2}-\frac{1}{2}=-\frac{13}{2}$$

$$\frac{a+b}{c}=\frac{-6+2}{-4}=\frac{-4}{-4}=1$$

Exercice 10

Sans calculatrice, effectuer les calculs suivants :

$$A = (-14) - (-13) + (-7)$$

$$B = (-4) - [(-3) - (-8) + (+7)]$$

$$C = (-2) + (-3) \times (+5)$$

$$D = (-9) - (-5) + [(-3) - (+2) \times (-3)]$$

$$E = (-4) - (3 - 7) + (-8)$$

$$F = (5 - 8) \times (-2 - 4)$$

$$G = [9 + 2 \times (-12)] : [3 - (16 - 18)]$$

$$H = (-4) \times (-5) \times (-2) \times (-6 + 7)$$

Correction

$$A = (-14) - (-13) + (-7) = -14 + 13 - 7 = -1 - 7 = -8$$

$$B = (-4) - [(-3) - (-8) + (+7)] = (-4) - (-3 + 8 + 7) = -4 - 12 = -16$$

$$C = (-2) + (-3) \times (+5) = -2 - 15 = -17$$

$$D = (-9) - (-5) + [(-3) - (+2) \times (-3)] = (-9) - (-5) + (-3 + 6) = -9 + 5 + 3 = -1$$

$$E = (-4) - (3 - 7) + (-8) = (-4) - (-4) + (-8) = -4 + 4 - 8 = -8$$

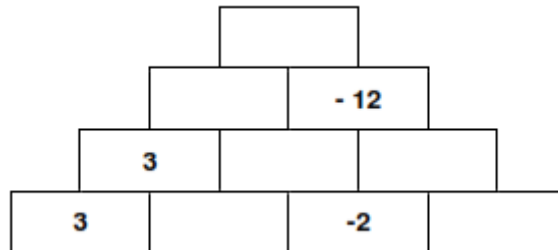
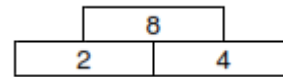
$$F = (5 - 8) \times (-2 - 4) = (-3) \times (-6) = 18$$

$$G = [9 + 2 \times (-12)] : [3 - (16 - 18)] = (9 - 24) : (3 - (-2)) = (-15) : (3 + 2) = (-15) : 5 = -3$$

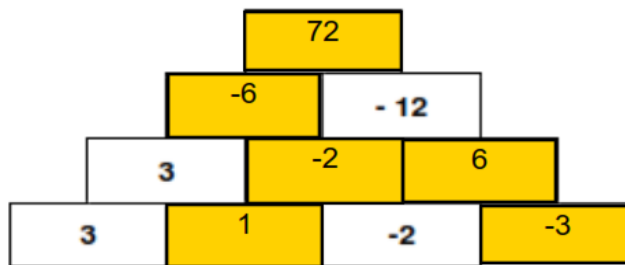
$$H = (-4) \times (-5) \times (-2) \times (-6 + 7) = (-4) \times (-5) \times (-2) \times (+1) = -40$$

Exercice 11

Sans calculatrice, compléter la pyramide suivante selon la règle



Correction



Exercice 12

Sans calculatrice, compléter le plus rapidement possible :

$7 \times \dots = -56$; $(-8) \times \dots = 64$; $(-5) \times \dots = 5$; $0 \times \dots = 0$; $(-4) \times \dots = 0$; $6 \times \dots = -3$

Correction

$7 \times (-8) = -56$ $(-8) \times (-8) = 64$ $(-5) \times (-1) = 5$ $0 \times x = 0$ $(-4) \times 0 = 0$ $6 \times (-0,5) = -3$