

Les nombres relatifs – CORRECTION

◆ Additionner et soustraire deux nombres relatifs

Exercice 5 page 74

$$A = 2,3 + 4,8 = 7,1$$

$$B = -4,1 + (-5,4) = -9,5$$

$$C = 2,5 + (-1,8) = 0,7$$

$$D = (-7,2) + 2,9 = -4,3$$

$$E = -158 + (-87) = -245$$

$$F = 157 + (-278) = -121$$

Exercice 19 page 75

$$\text{a. } 3,2 - 5,35 = 3,2 + (-5,35) = -2,15$$

$$\text{b. } 8,1 - (+15) = 8,1 + (-15) = -6,9$$

$$\text{c. } 4,7 - (-5) = 4,7 + 5 = 9,7$$

$$\text{d. } -120 - 56 = -120 + (-56) = -176$$

$$\text{e. } -284 - (-45) = -284 + 45 = -239$$

$$\text{f. } -0,06 - (-3,4) = -0,06 + 3,4 = 3,34$$

◆ Additionner et soustraire des nombres relatifs

Exercice 28 page 75

$$A = -3 + (-7) - (-3) + 8 - 5 + 10$$

$$A = -3 + (-7) + 3 + 8 + (-5) + 10$$

$$A = 8 + 10 + (-7) + (-5)$$

$$A = 18 + (-12)$$

$$A = 6$$

$$C = 1,98 + (-5,2) - (-3,4) + 0,02 - 4,5$$

$$C = 1,98 + (-5,2) + 3,4 + 0,02 + (-4,5)$$

$$C = 1,98 + 0,02 + 3,4 + (-5,2) + (-4,5)$$

$$C = 5,4 + (-9,7)$$

$$C = -4,3$$

$$B = 135 + (-154) - (-65) - 46$$

$$B = 135 + (-154) + 65 + (-46)$$

$$B = 135 + 65 + (-154) + (-46)$$

$$B = 200 + (-200)$$

$$B = 0$$

$$D = 21 - (-5 + 3) + (4 - 8) - 21$$

$$D = 21 - (-2) + (-4) + (-21)$$

$$D = 21 + 2 + (-4) + (-21)$$

$$D = -2$$

Exercice 13 page 86

$$A = (-25) - 18 + (-3) + 25 + 3$$

$$= (-25 + 25) + (-3 + 3) - 18 = -18$$

$$B = (-3,5) + (-4,8) + 5 + (-0,2) + 13,5$$

$$= (-3,5 + 13,5) + (-4,8 - 0,2) + 5 = 10 + (-5) + 5 = 10$$

Les écritures fractionnaires (fractions)– CORRECTION

♦ Additionner et soustraire des fractions ayant des dénominateurs communs

Exercice 19 page 121

a. $\frac{4}{3} + \frac{7}{3} = \frac{4+7}{3} = \frac{11}{3}$

b. $\frac{2}{7} + \frac{8}{7} = \frac{2+8}{7} = \frac{10}{7}$

c. $\frac{9}{5} - \frac{7}{5} = \frac{9-7}{5} = \frac{2}{5}$

d. $\frac{4}{6} + \frac{11}{6} - \frac{5}{6} = \frac{4+11-5}{6} = \frac{10}{6} = \frac{5}{3}$

e. $\frac{5}{2} - \frac{3}{2} - \frac{7}{2} = \frac{5-3-7}{2} = \frac{-5}{2}$

Exercice 20 page 121

a. $\frac{-5}{9} + \frac{4}{9} = \frac{-5+4}{9} = \frac{-1}{9}$

b. $\frac{-5}{11} - \frac{8}{11} = \frac{-5-8}{11} = \frac{-13}{11}$

c. $\frac{2}{5} - \frac{-7}{5} = \frac{2-(-7)}{5} = \frac{9}{5}$

d. $-\frac{4}{7} - \frac{-5}{7} = \frac{-4-(-5)}{7} = \frac{1}{7}$

♦ Additionner et soustraire des fractions ayant des dénominateurs différents

Exercice 22 page 121

$$A = \frac{13}{25} - \frac{2}{5} = \frac{13}{25} - \frac{2 \times 5}{5 \times 5} = \frac{13}{25} - \frac{10}{25} = \frac{3}{25}$$
$$B = -\frac{31}{18} - \frac{4}{3} = -\frac{31}{18} - \frac{4 \times 6}{3 \times 6} = -\frac{31}{18} - \frac{24}{18} = -\frac{55}{18}$$
$$C = 1 - \frac{5}{42} = \frac{42}{42} - \frac{5}{42} = \frac{37}{42}$$

Exercice 23 page 121

$$A = \frac{5}{2} + \frac{3}{4} + \frac{-7}{8} = \frac{5 \times 4}{2 \times 4} + \frac{3 \times 2}{4 \times 2} + \frac{-7}{8}$$
$$= \frac{20}{8} + \frac{6}{8} + \frac{-7}{8} = \frac{19}{8}$$
$$B = \frac{4}{15} + \frac{2}{5} - \frac{7}{30} = \frac{4 \times 2}{15 \times 2} + \frac{2 \times 6}{5 \times 6} - \frac{7}{30}$$
$$= \frac{8}{30} + \frac{12}{30} - \frac{7}{30} = \frac{13}{30}$$

Exercice 27 page 121

$$A = \frac{5}{7} - \left(\frac{3}{2} - \frac{5}{4} \right) = \frac{5}{7} - \left(\frac{3 \times 2}{2 \times 2} - \frac{5}{4} \right)$$
$$= \frac{5}{7} - \left(\frac{6}{4} - \frac{5}{4} \right) = \frac{5}{7} - \frac{1}{4} = \frac{5 \times 4}{7 \times 4} - \frac{1 \times 7}{4 \times 7}$$
$$= \frac{20}{28} - \frac{7}{28} = \frac{13}{28}$$

$$\begin{aligned}
 B &= \left(\frac{5}{8} + \frac{-7}{4} \right) - \left(\frac{-1}{3} - \frac{4}{3} \right) = \left(\frac{5}{8} + \frac{-7 \times 2}{4 \times 2} \right) - \left(\frac{-1}{3} - \frac{4}{3} \right) \\
 &= \left(\frac{5}{8} + \frac{-14}{8} \right) - \left(\frac{-1}{3} - \frac{4}{3} \right) = \frac{-9}{8} + \frac{5}{3} \\
 &= \frac{-9 \times 3}{8 \times 3} + \frac{5 \times 8}{3 \times 8} = \frac{-27}{24} + \frac{40}{24} = \frac{-27 + 40}{24} \\
 &= \frac{13}{24}
 \end{aligned}$$

Exercice 28 page 121

$$\begin{aligned}
 \frac{1}{3} + \frac{1}{4} + \frac{5}{12} &= \frac{1 \times 4}{3 \times 4} + \frac{1 \times 3}{4 \times 3} + \frac{5}{12} \\
 &= \frac{4}{12} + \frac{3}{12} + \frac{5}{12} = \frac{12}{12} = 1
 \end{aligned}$$

Achille a tort : le mélange de Maya rentre exactement dans la carafe.