Corrections Automatismes

Priorités de calcul

Corrigé Exercice 1

$A = \frac{3}{4} \times \frac{7}{5}$

$A = \mathbf{\frac{21}{20}}$

$B = \frac{10}{7} \times 3$

$B = \mathbf{\frac{30}{7}}$

$C = \frac{3}{4} \div \frac{6}{7}$

$C = \frac{3}{4} \times \frac{7}{6}$

$C = \frac{21}{24} = \mathbf{\frac{7}{8}}$

$D = \frac{2}{5} \div 7$

$D = \frac{2}{5} \times \frac{1}{7}$

$D = \mathbf{\frac{2}{35}}$

$I = \frac{\frac{3}{2}}{\frac{4}{5}}$

$I = \frac{3}{2} \div \frac{4}{5}$

$I = \frac{3}{2} \times \frac{5}{4}$

$I = \mathbf{\frac{15}{8}}$

$K = \frac{\frac{4}{7}}{5}$

$K = \frac{4}{7} \div 5$

$K = \frac{4}{7} \times \frac{1}{5}$

$K = \mathbf{\frac{4}{35}}$

$E = \frac{3}{2} \times \frac{5}{2}$

$E = \mathbf{\frac{15}{4}}$

$F = \frac{28}{15} \div \frac{4}{3}$

$F = \mathbf{\frac{7}{5}}$

$G = 5 \times \frac{3}{8}$

$G = \mathbf{\frac{15}{8}}$

$H = 6 \div \frac{4}{9}$

$H = 6 \times \frac{9}{4}$

$H = \frac{54}{4} = \mathbf{\frac{27}{2}}$

Corrigé Exercice 2

$A = \left(\frac{2}{5}\right)^2 = \frac{2^2}{5^2}$

$A = \mathbf{\frac{4}{25}}$

$B = \left(-\frac{1}{3}\right)^2$

$B = +\frac{1^2}{3^2} = \mathbf{\frac{1}{9}}$

$C = \left(\frac{3}{2}\right)^4 = \frac{3^4}{2^4}$

$C = \mathbf{\frac{81}{16}}$

$D = \frac{3^4}{2} = \mathbf{\frac{81}{2}}$

$E = \left(-\frac{5}{3}\right)^3$

$E = -\frac{5^3}{3^3}$

$E = -\mathbf{\frac{125}{27}}$

$F = \left(\frac{-2}{7}\right)^3$

$F = \frac{(-2)^3}{7^3}$

$F = \mathbf{\frac{-8}{343}}$

Corrigé Exercice 3

$A = \frac{3}{4} + \frac{7}{5}$

$A = \frac{3\times5}{4\times5} + \frac{7\times4}{5\times4}$

$A = \frac{15}{20} + \frac{28}{20}$

$A = \mathbf{\frac{43}{20}}$

$B = \frac{42}{7} - 6$

$B = \frac{42}{7} - \frac{6\times7}{1\times7}$

$B = \frac{42}{7} - \frac{42}{7}$

$B = \mathbf{0}$

$C = 5 + \frac{6}{5}$

$C = \frac{5\times5}{1\times5} + \frac{6}{5}$

$C = \frac{25}{5} + \frac{6}{5}$

$C = \mathbf{\frac{31}{5}}$

$D = \frac{5}{2} + \frac{7}{6}$

$D = \frac{30}{12} + \frac{14}{12}$

$D = \frac{44}{12}$

$D = \mathbf{\frac{11}{3}}$

$E = \frac{9}{6} - \frac{7}{6}$

$E = \frac{2}{6}$

$E = \mathbf{\frac{1}{3}}$

$F = \frac{1}{5} - \frac{1}{9}$

$F = \frac{9}{45} - \frac{5}{45}$

$F = \mathbf{\frac{4}{45}}$

$G = \frac{2}{3} - \frac{6}{5}$

$G = \frac{10}{15} - \frac{18}{15}$

$G = -\mathbf{\frac{8}{15}}$

$H = 2 - \frac{7}{6}$

$H = \frac{12}{6} - \frac{7}{6}$

$H = \mathbf{\frac{5}{6}}$

$I = -\frac{5}{4} + \frac{5}{3}$

$I = -\frac{15}{12} + \frac{20}{12}$

$I = \mathbf{\frac{5}{12}}$

$J = \frac{6}{11} - 3$

$J = \frac{6}{11} - \frac{33}{11}$

$J = -\mathbf{\frac{27}{11}}$

$K = \frac{3}{2} + \frac{7}{5} - \frac{41}{20}$

$K = \frac{30}{20} + \frac{28}{20} - \frac{41}{20}$

$K = \mathbf{\frac{17}{20}}$

Corrigé Exercice 4

$K = \frac{5}{11} \times \frac{2}{7}$

$K = \mathbf{\frac{10}{77}}$

$L = \frac{5}{4} + \frac{1}{4}$

$L = \frac{6}{4}$

$L = \mathbf{\frac{3}{2}}$

$M = \frac{2}{5} \div \frac{9}{14}$

$M = \frac{2}{5} \times \frac{14}{9}$

$M = \mathbf{\frac{28}{45}}$

$N = 5 - \frac{3}{12}$

$N = \frac{60}{12} - \frac{3}{12}$

$N = \frac{57}{12} = \mathbf{\frac{19}{4}}$

$T = \frac{\frac{56}{11}}{\frac{1}{33}} = \frac{56}{11} \div \frac{1}{33}$

$T = \frac{56}{11} \times 33$

$T = 56 \times 3 = \mathbf{168}$

$P = \frac{6}{5} \times 7$

$P = \mathbf{\frac{42}{5}}$

$Q = \frac{12}{3} - \frac{2}{7}$

$Q = \frac{84}{21} - \frac{6}{21}$

$Q = \frac{78}{21} = \mathbf{\frac{26}{7}}$

$R = \frac{27}{-7} \div 6$

$R = -\frac{27}{7} \times \frac{1}{6}$

$R = -\frac{27}{42} = \mathbf{-\frac{9}{14}}$

$S = \frac{5}{4} + \frac{3}{10}$

$S = \frac{50}{40} + \frac{12}{40}$

$S = \frac{62}{40} = \mathbf{\frac{31}{20}}$

$U = \frac{\frac{15}{31}}{\frac{3}{2}} = \frac{15}{31} \div \frac{3}{2}$

$U = \frac{15}{31} \times \frac{2}{3}$

$U = \frac{30}{93} = \mathbf{\frac{10}{31}}$

Corrigé Exercice 5

Oui, par 7, car c'est une multiplication $A = \frac{\cancel{7} \times 3}{11 \times \cancel{7}} = \frac{3}{11}$	Non, c'est une addition ; mais on peut calculer $B = \frac{15 + 11}{15 + 23} = \frac{26}{38}$	Oui, par 8, car c'est une multiplication $C = \frac{\cancel{8} \times 6}{\cancel{8} \times 1} = \frac{6}{1} = 6$	Non, c'est une addition ; mais on peut calculer $D = \frac{5 + 17}{5} = \frac{22}{5}$
$E = \frac{4 \times \cancel{11} \times 7}{\cancel{11} \times 2 \times 4} = \frac{7}{2}$	$F = \frac{4+5\times6}{4\times8+6}$ non… $F = \frac{34}{38} = \frac{17}{19}$	$G = \frac{\cancel{12}}{3 \times \cancel{12}} = \frac{1}{3}$	$H = \frac{2 \times \cancel{3} \times 4 \times \cancel{5}}{\cancel{3} \times 4 \times \cancel{5} \times 6} = \frac{2}{6}$

Corrigé Exercice 6

$A = \frac{49}{28} = \frac{7 \times 7}{7 \times 4} = \frac{7}{4}$

$B = \frac{33}{77} = \frac{3 \times 11}{7 \times 11} = \frac{3}{7}$

$C = \frac{6}{60} = \frac{6 \times 1}{6 \times 10} = \frac{1}{10}$

$D = \frac{48}{32} = \frac{8 \times 6}{8 \times 4} = \frac{6}{4} = \frac{3 \times 2}{2 \times 2} = \frac{3}{2}$

$E = \frac{35}{20} = \frac{5 \times 7}{4 \times 5} = \frac{7}{4}$

$F = \frac{26}{42} = \frac{13 \times 2}{21 \times 2} = \frac{13}{21}$

$G = \frac{63}{81} = \frac{9 \times 7}{9 \times 9} = \frac{7}{9}$

$H = \frac{51}{17} = \frac{17 \times 3}{17 \times 1} = \frac{3}{1} = 3$

Corrigé Exercice 7

$$I = \left(\frac{2}{3} - \frac{3}{2}\right) \times \left(1 + \frac{7}{6}\right)$$
$$I = \left(\frac{4}{6} - \frac{9}{6}\right) \times \left(\frac{6}{6} + \frac{7}{6}\right)$$
$$I = \left(-\frac{5}{6}\right) \times \frac{13}{6}$$
$$I = \mathbf{-\frac{65}{36}}$$

$$J = \frac{4}{5} \times \frac{3}{7} + \frac{4}{5} \div \frac{3}{7}$$
$$J = \frac{12}{35} + \frac{4}{5} \times \frac{7}{3}$$
$$J = \frac{12}{35} + \frac{28}{15}$$
$$J = \frac{180}{525} + \frac{980}{525}$$
$$J = \frac{1160}{525} = \mathbf{\frac{232}{105}}$$

$$K = \frac{4}{7} + \frac{2}{7} \times \frac{14}{18}$$
$$K = \frac{4}{7} + \frac{2}{7} \times \frac{2 \times 7}{2 \times 9}$$
$$K = \frac{4}{7} + \frac{2}{9}$$
$$K = \frac{36}{63} + \frac{14}{63}$$
$$K = \mathbf{\frac{50}{63}}$$

$$L = \frac{\frac{4}{5}}{\frac{9}{10}} - \frac{7}{4} = \frac{4}{5} \times \frac{10}{9} - \frac{7}{4}$$
$$L = \frac{40}{45} - \frac{7}{4}$$
$$L = \frac{8}{9} - \frac{7}{4}$$
$$L = \frac{32}{36} - \frac{63}{36} = \mathbf{-\frac{31}{36}}$$

$$A = \frac{2}{5} - \frac{6}{5} \times \frac{4}{3}$$
$$A = \frac{2}{5} - \frac{24}{15}$$
$$A = \frac{6}{15} - \frac{24}{15}$$
$$A = -\frac{18}{15} = \mathbf{-\frac{6}{5}}$$

$$B = \frac{7}{2} - \frac{5}{4} \div \frac{15}{7}$$
$$B = \frac{7}{2} - \frac{5}{4} \times \frac{7}{15}$$
$$B = \frac{7}{2} - \frac{35}{60}$$
$$B = \frac{210}{60} - \frac{35}{60} = \frac{175}{60} = \mathbf{\frac{35}{12}}$$

$$C = 2 \times \frac{7}{6} - \frac{20}{18}$$
$$C = \frac{14}{6} - \frac{20}{18}$$
$$C = \frac{42}{18} - \frac{20}{18}$$
$$C = \frac{22}{18} = \mathbf{\frac{11}{9}}$$

$$D = \frac{\frac{3}{4} - \frac{4}{5}}{\frac{3}{2}} = \frac{\frac{15}{20} - \frac{16}{20}}{\frac{3}{2}}$$
$$D = -\frac{1}{20} \div \frac{3}{2}$$
$$D = -\frac{1}{20} \times \frac{2}{3} = -\frac{2}{60} = \mathbf{-\frac{1}{30}}$$