5ème **SOUTIEN – OPERATIONS SUR LES FRACTIONS**

EXERCICE 1 :

Calculer :

$\frac{4}{11} + \frac{3}{11} =$ $\frac{15}{37} + \frac{13}{37} =$

$\frac{10}{23} - \frac{5}{23} =$ $\frac{2,5}{4} - \frac{1,5}{4} =$

EXERCICE 2 :

Compléter :

$\frac{4}{7} + \frac{....}{7} = \frac{10}{7}$ $\frac{1}{.....} + \frac{6}{....} = \frac{7}{4}$

$\frac{5}{3} - \frac{....}{3} = \frac{3}{....} = ...$ $\frac{12}{....} - \frac{....}{5} = \frac{11}{....}$

EXERCICE 3 :

Exprimer A, B, C et D sous la forme d'un nombre entier :

$A = \frac{1}{2} + \frac{1}{2} =$ $B = \frac{16}{7} - \frac{2}{7} =$

$C = \frac{7}{8} + \frac{9}{8} =$ $D = \frac{7}{3} + \frac{5}{3} =$

EXERCICE 4 :

Calculer et donner le résultat sous la forme d'une fraction la plus simple possible :

$A = \frac{1}{6} + \frac{5}{3} =$

$B = \frac{10}{11} + \frac{5}{33} =$

$C = \frac{7}{12} - \frac{1}{3} =$

$D = \frac{1}{14} + \frac{3}{7} =$

$E = \frac{5}{4} - \frac{5}{12} =$

$F = \frac{1}{4} - \frac{3}{28} =$

$G = \frac{77}{75} - \frac{4}{25} =$

$H = \frac{25}{21} + \frac{8}{7} + \frac{4}{3} =$

$I = \frac{1}{20} + \frac{2}{5} + \frac{3}{10} =$

$J = \frac{1}{5} + 1 =$

$K = 1 + \frac{1}{3} - \frac{1}{9} =$

$L = 2 - \frac{3}{7} =$

EXERCICE 5 :

Donner une écriture fractionnaire des produits :

$A = \frac{1}{2} \times \frac{3}{4} =$ $B = \frac{5}{7} \times 3 =$

$C = \frac{11}{25} \times \frac{9}{4} =$ $D = \frac{2}{7} \times \frac{4}{5} \times \frac{8}{3} =$

EXERCICE 6 :

Compléter :

$\frac{4}{7} \times \frac{....}{....} = \frac{8}{21}$ $\frac{....}{....} \times \frac{5}{4} = \frac{35}{32}$ $\frac{5}{3} \times \frac{....}{....} \times \frac{5}{3} = \frac{50}{27}$

EXERCICE 7 :

Simplifier avant de calculer les produits suivants, on donnera le résultat sous la forme d'une fraction la plus simple possible.

$A = \frac{1}{6} \times \frac{6}{5} =$

$B = \frac{17}{13} \times \frac{13}{15} \times \frac{8}{17} =$

$C = \frac{33}{25} \times \frac{5}{22} =$

$D = \frac{28}{15} \times \frac{20}{21} =$

$E = \frac{15}{14} \times \frac{7}{9} \times \frac{3}{5} =$

$F = \frac{26}{35} \times \frac{11}{13} \times \frac{14}{22} =$

5ème **CORRECTION DU SOUTIEN– OPERATIONS SUR LES FRACTIONS**

EXERCICE 1 :

$\frac{4}{11} + \frac{3}{11} = \frac{4+3}{11} = \mathbf{\frac{7}{11}}$ $\qquad$ $\frac{15}{37} + \frac{13}{37} = \frac{15+13}{37} = \mathbf{\frac{28}{37}}$

$\frac{10}{23} - \frac{5}{23} = \frac{10-5}{23} = \mathbf{\frac{5}{23}}$ $\qquad$ $\frac{2,5}{4} - \frac{1,5}{4} = \frac{2,5-1,5}{4} = \mathbf{\frac{1}{4}}$

EXERCICE 2 :

$\frac{4}{7} + \mathbf{\frac{6}{7}} = \frac{10}{7}$ $\qquad$ $\mathbf{\frac{1}{4}} + \frac{6}{4} = \frac{7}{4}$

$\frac{5}{3} - \mathbf{\frac{2}{3}} = \mathbf{\frac{3}{3}} = \mathbf{1}$ $\qquad$ $\mathbf{\frac{12}{5}} - \mathbf{\frac{1}{5}} = \mathbf{\frac{11}{5}}$

EXERCICE 3 :

$A = \frac{1}{2} + \frac{1}{2} = \frac{1+1}{2} = \frac{2}{2} = \mathbf{1}$ $\qquad$ $B = \frac{16}{7} - \frac{2}{7} = \frac{16-2}{7} = \frac{14}{7} = \mathbf{2}$

$C = \frac{7}{8} + \frac{9}{8} = \frac{7+9}{8} = \frac{16}{8} = \mathbf{2}$ $\qquad$ $D = \frac{7}{3} + \frac{5}{3} = \frac{7+5}{3} = \frac{12}{3} = \mathbf{4}$

EXERCICE 4 :

$A = \frac{1}{6} + \frac{5}{3} = \frac{1}{6} + \frac{5\times2}{3\times2} = \frac{1}{6} + \frac{10}{6} = \frac{1+10}{6} = \mathbf{\frac{11}{6}}$

$B = \frac{10}{11} + \frac{5}{33} = \frac{10\times3}{11\times3} + \frac{5}{33} = \frac{30}{33} + \frac{5}{33} = \frac{30+5}{33} = \mathbf{\frac{35}{33}}$

$C = \frac{7}{12} - \frac{1}{3} = \frac{7}{12} - \frac{1\times4}{3\times4} = \frac{7}{12} - \frac{4}{12} = \frac{7-4}{12} = \frac{3}{12} = \frac{3\times1}{3\times4} = \mathbf{\frac{1}{4}}$

$D = \frac{1}{14} + \frac{3}{7} = \frac{1}{14} + \frac{3\times2}{7\times2} = \frac{1}{14} + \frac{6}{14} = \frac{1+6}{14} = \frac{7}{14} = \frac{7\times1}{7\times2} = \mathbf{\frac{1}{2}}$

$E = \frac{5}{4} - \frac{5}{12} = \frac{5\times3}{4\times3} - \frac{5}{12} = \frac{15}{12} - \frac{5}{12} = \frac{15-5}{12} = \frac{10}{12} = \frac{5\times2}{6\times2} = \mathbf{\frac{5}{6}}$

$F = \frac{1}{4} - \frac{3}{28} = \frac{1\times7}{4\times7} - \frac{3}{28} = \frac{7}{28} - \frac{3}{28} = \frac{7-3}{28} = \frac{4}{28} = \frac{4\times1}{4\times7} = \mathbf{\frac{1}{7}}$

$G = \frac{77}{75} - \frac{4}{25} = \frac{77}{75} - \frac{4\times3}{25\times3} = \frac{77}{75} - \frac{12}{75} = \frac{77-12}{75} = \frac{65}{75} = \frac{5\times13}{5\times15} = \mathbf{\frac{13}{15}}$

$H = \frac{25}{21} + \frac{8}{7} + \frac{4}{3} = \frac{25}{21} + \frac{8\times3}{7\times3} + \frac{4\times7}{3\times7} = \frac{25}{21} + \frac{24}{21} + \frac{28}{21} = \frac{25+24+28}{21}$

$= \frac{77}{21} = \frac{7\times11}{7\times3} = \mathbf{\frac{11}{3}}$

$I = \frac{1}{20} + \frac{2}{5} + \frac{3}{10} = \frac{1}{20} + \frac{2 \times 4}{5 \times 4} + \frac{3 \times 2}{10 \times 2} = \frac{1}{20} + \frac{8}{20} + \frac{6}{20} = \frac{1 + 8 + 6}{20} = \frac{15}{20}$
$= \frac{5 \times 3}{5 \times 4} = \mathbf{\frac{3}{4}}$

$J = \frac{1}{5} + 1 = \frac{1}{5} + \frac{1}{1} = \frac{1}{5} + \frac{1 \times 5}{1 \times 5} = \frac{1}{5} + \frac{5}{5} = \frac{1 + 5}{5} = \mathbf{\frac{6}{5}}$

$K = 1 + \frac{1}{3} - \frac{1}{9} = \frac{1}{1} + \frac{1}{3} - \frac{1}{9} = \frac{1 \times 9}{1 \times 9} + \frac{1 \times 3}{3 \times 3} - \frac{1}{9} = \frac{9}{9} + \frac{3}{9} - \frac{1}{9} = \frac{9 + 3 - 1}{9} = \mathbf{\frac{11}{9}}$

$L = 2 - \frac{3}{7} = \frac{2}{1} - \frac{3}{7} = \frac{2 \times 7}{1 \times 7} - \frac{3}{7} = \frac{14}{7} - \frac{3}{7} = \frac{14 - 3}{7} = \mathbf{\frac{11}{7}}$

EXERCICE 5:

$A = \frac{1}{2} \times \frac{3}{4} = \frac{1 \times 3}{2 \times 4} = \mathbf{\frac{3}{8}}$

$B = \frac{5}{7} \times 3 = \frac{5}{7} \times \frac{3}{1} = \frac{5 \times 3}{7 \times 1} = \mathbf{\frac{15}{7}}$

$C = \frac{11}{25} \times \frac{9}{4} = \frac{11 \times 9}{25 \times 4} = \mathbf{\frac{99}{100}}$

$D = \frac{2}{7} \times \frac{4}{5} \times \frac{8}{3} = \frac{2 \times 4 \times 8}{7 \times 5 \times 3} = \mathbf{\frac{64}{105}}$

EXERCICE 6:

$\frac{4}{7} \times \mathbf{\frac{2}{3}} = \frac{8}{21}$

$\mathbf{\frac{7}{8}} \times \frac{5}{4} = \frac{35}{32}$

$\frac{5}{3} \times \mathbf{\frac{2}{3}} \times \frac{5}{3} = \frac{50}{27}$

EXERCICE 7 :

$A = \frac{1}{6} \times \frac{6}{5} = \frac{1 \times 6}{6 \times 5} = \mathbf{\frac{1}{5}}$

$B = \frac{17}{13} \times \frac{13}{15} \times \frac{8}{17} = \frac{17 \times 13 \times 8}{13 \times 15 \times 17} = \mathbf{\frac{8}{15}}$

$C = \frac{33}{25} \times \frac{5}{22} = \frac{33 \times 5}{25 \times 22} = \frac{3 \times 11 \times 5}{5 \times 5 \times 2 \times 11} = \mathbf{\frac{3}{10}}$

$D = \frac{28}{15} \times \frac{20}{21} = \frac{28 \times 20}{15 \times 21} = \frac{4 \times 7 \times 5 \times 4}{3 \times 5 \times 7 \times 3} = \mathbf{\frac{16}{9}}$

$E = \frac{15}{14} \times \frac{7}{9} \times \frac{3}{5} = \frac{15 \times 7 \times 3}{14 \times 9 \times 5} = \frac{5 \times 3 \times 7 \times 3}{7 \times 2 \times 3 \times 3 \times 5} = \mathbf{\frac{1}{2}}$

$F = \frac{26}{35} \times \frac{11}{13} \times \frac{14}{22} = \frac{26 \times 11 \times 14}{35 \times 13 \times 22} = \frac{13 \times 2 \times 11 \times 2 \times 7}{5 \times 7 \times 13 \times 2 \times 11} = \mathbf{\frac{2}{5}}$