

EXERCICE 1 - Calculer en donnant le résultat en *écriture fractionnaire* :

$A = \frac{2}{7} \times \frac{4}{3}$	$B = \frac{4}{7} \times \frac{2}{3}$	$C = 7 \times \frac{4}{11}$	$D = \frac{7}{11} \times 4$	$E = 9 \times \frac{-4}{5}$
$F = \frac{-2}{5} \times \frac{9}{5}$	$G = \frac{-7}{6} \times \frac{5}{-9}$	$H = \frac{7}{-10} \times \frac{-11}{-3}$	$I = \frac{-11}{-4} \times \frac{-9}{-13}$	$J = -\frac{5}{-7} \times \left(-\frac{15}{-2}\right)$
$K = \frac{-5}{2} \times \frac{2}{-3}$	$L = -\frac{-2}{-3} \times \left(-\frac{-3}{-7}\right)$	$M = 4 \times \frac{5}{-4}$	$N = \frac{-4}{15} \times (-5)$	$O = -12 \times \left(-\frac{7}{-6}\right)$
$P = \frac{-2}{-3} \times \frac{5}{-4}$	$Q = \frac{5}{-7} \times \frac{-3}{-15}$	$R = \frac{-5}{-7} \times \frac{14}{-15}$	$S = \frac{6}{-10} \times \frac{-1}{-3}$	$T = -\frac{-28}{-21} \times \left(-\frac{-6}{-4}\right)$

EXERCICE 2 - Calculer en prenant le soin de **simplifier avant de calculer** :

$X = \frac{-4}{5} \times \frac{5}{-3} \times \frac{2}{7}$ $X = \frac{-4}{-3} \times \frac{2}{7}$ $X = \frac{8}{21}$	$Y = \frac{-6}{5} \times \frac{-7}{2} \times \frac{3}{-11}$ $Y = \frac{-3 \times (-7) \times 3}{5 \times (-11)}$ $Y = \frac{63}{55}$	$A = \frac{2}{5} \times \frac{5}{3}$	$B = \frac{3}{7} \times \frac{4}{-3}$	$C = \frac{6}{-5} \times \frac{-7}{-6}$
$D = \frac{9}{-11} \times \frac{-7}{18}$	$E = \frac{-9}{4} \times \frac{-2}{5}$	$F = \frac{3}{-4} \times \frac{8}{-7}$	$G = \frac{-4}{5} \times \frac{-7}{6}$	$H = \frac{7}{-10} \times \frac{-15}{-2}$
$I = \frac{-21}{-2} \times \frac{-5}{-28}$	$J = \frac{-2}{35} \times \frac{-25}{6}$	$K = \frac{21}{-8} \times \frac{-22}{15}$	$L = -\frac{6}{-15} \times \frac{-20}{-8}$	$M = \frac{2}{-3} \times \frac{-11}{5} \times \frac{-5}{7}$
$N = \frac{-3}{-4} \times \frac{-5}{-2} \times \frac{4}{3}$	$O = \frac{-2}{-11} \times \frac{-5}{-6} \times \frac{-3}{35}$	$P = \frac{-4}{15} \times \left(-\frac{-21}{-6}\right) \times \frac{-10}{14}$	$Q = \frac{8}{25} \times \frac{77}{6} \times \left(-\frac{20}{88}\right)$	$R = \frac{23}{51} \times \frac{-13}{-19} \times \frac{-7}{9} \times \frac{0}{34}$

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$A = \frac{2}{7} \times \frac{4}{3}$ $A = \frac{2 \times 4}{7 \times 3}$ $A = \frac{8}{21}$	$B = \frac{4}{7} \times \frac{2}{3}$ $B = \frac{4 \times 2}{7 \times 3}$ $B = \frac{8}{21}$	$C = \frac{7}{1} \times \frac{4}{11}$ $C = \frac{7 \times 4}{1 \times 11}$ $C = \frac{28}{11}$	$D = \frac{7}{11} \times \frac{4}{1}$ $D = \frac{7 \times 4}{11 \times 1}$ $D = \frac{28}{11}$	$E = \frac{9}{1} \times \frac{-4}{5}$ $E = -\frac{9 \times 4}{1 \times 5}$ $E = -\frac{36}{5}$
$F = \frac{-2}{5} \times \frac{9}{5}$ $F = -\frac{2 \times 9}{5 \times 5}$ $F = -\frac{18}{25}$	$G = \frac{-7}{6} \times \frac{5}{-9}$ $G = +\frac{7 \times 5}{6 \times 9}$ $G = \frac{35}{54}$	$H = \frac{7}{-10} \times \frac{-11}{-3}$ $H = -\frac{7 \times 11}{10 \times 3}$ $H = -\frac{77}{30}$	$I = \frac{-11}{-4} \times \frac{-9}{-13}$ $I = \frac{11}{4} \times \frac{9}{13}$ $I = \frac{11 \times 9}{4 \times 13}$ $I = \frac{99}{52}$	$J = -\frac{-5}{-7} \times \left(-\frac{15}{-2}\right)$ $J = -\frac{5}{7} \times \left(+\frac{15}{2}\right)$ $J = -\frac{5 \times 15}{7 \times 2}$ $J = -\frac{75}{14}$
$K = \frac{-5}{2} \times \frac{2}{-3}$ $K = +\frac{5 \times \boxed{2}}{\boxed{2} \times 3}$ $K = \frac{5}{3}$	$L = -\frac{-2}{-3} \times \left(-\frac{-3}{-7}\right)$ $L = -\frac{2}{3} \times \left(-\frac{3}{7}\right)$ $L = +\frac{2 \times \boxed{3}}{\boxed{3} \times 7}$ $L = \frac{2}{7}$	$M = 4 \times \frac{5}{-4}$ $M = -\frac{4}{1} \times \frac{5}{4}$ $M = -\frac{\boxed{4} \times 5}{1 \times \boxed{4}}$ $M = -5$	$N = \frac{-4}{15} \times (-5)$ $N = +\frac{4}{15} \times \frac{5}{1}$ $N = \frac{4 \times 5}{15 \times 1}$ $N = \frac{4 \times \boxed{5}}{3 \times \boxed{5} \times 1}$ $N = \frac{4}{3}$	$O = -12 \times \left(-\frac{7}{-6}\right)$ $O = -\frac{12}{1} \times \frac{7}{6}$ $O = -\frac{12 \times 7}{1 \times 6}$ $O = -\frac{\boxed{6} \times 2 \times 7}{1 \times \boxed{6}}$ $O = -14$
$P = \frac{-2}{-3} \times \frac{5}{-4}$ $P = \frac{2}{3} \times \left(-\frac{5}{4}\right)$ $P = -\frac{2 \times 5}{3 \times 4}$ $P = -\frac{\boxed{2} \times 5}{3 \times 2 \times \boxed{2}}$ $P = -\frac{5}{6}$	$Q = \frac{5}{-7} \times \frac{-3}{-15}$ $Q = -\frac{5}{7} \times \frac{3}{15}$ $Q = -\frac{5 \times 3}{7 \times 15}$ $Q = -\frac{\boxed{5} \times \boxed{3}}{7 \times \boxed{3} \times \boxed{5}}$ $Q = -\frac{1}{7}$	$R = \frac{-5}{-7} \times \frac{14}{-15}$ $R = \frac{5}{7} \times \left(-\frac{14}{15}\right)$ $R = -\frac{5 \times 14}{7 \times 15}$ $R = -\frac{\boxed{5} \times \boxed{7} \times 2}{\boxed{7} \times \boxed{5} \times 3}$ $R = -\frac{2}{3}$	$S = \frac{6}{-10} \times \frac{-1}{-3}$ $S = -\frac{6}{10} \times \frac{1}{3}$ $S = -\frac{6 \times 1}{10 \times 3}$ $S = -\frac{\boxed{3} \times \boxed{2} \times 1}{5 \times \boxed{2} \times \boxed{3}}$ $S = -\frac{1}{5}$	$T = -\frac{-28}{-21} \times \left(-\frac{-6}{-4}\right)$ $T = -\frac{28}{21} \times \left(-\frac{6}{4}\right)$ $T = +\frac{28 \times 6}{21 \times 4}$ $T = \frac{\boxed{7} \times 4 \times \boxed{3} \times \boxed{2}}{\boxed{7} \times \boxed{3} \times \boxed{2} \times 2}$ $T = 2$

EXERCICE 2

$X = \frac{-4}{5} \times \frac{5}{-3} \times \frac{2}{7}$ $X = \frac{-4}{-3} \times \frac{2}{7}$ $X = \frac{8}{21}$	$Y = \frac{-6}{5} \times \frac{-7}{2} \times \frac{3}{-11}$ $Y = \frac{-3 \times (-7) \times 3}{5 \times (-11)}$ $Y = \frac{63}{55}$	$A = \frac{2}{5} \times \frac{5}{3}$ $A = \frac{2 \times \boxed{5}}{\boxed{5} \times 3}$ $A = \frac{2}{3}$	$B = \frac{3}{7} \times \frac{4}{-3}$ $B = -\frac{\boxed{3} \times 4}{7 \times \boxed{3}}$ $B = -\frac{4}{7}$	$C = \frac{6}{-5} \times \frac{-7}{-6}$ $C = -\frac{\boxed{6} \times 7}{5 \times \boxed{6}}$ $C = -\frac{7}{5}$
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$D = \frac{9}{-11} \times \frac{-7}{18}$ $D = + \frac{9 \times 7}{11 \times 18}$ $D = \frac{\boxed{9} \times 7}{11 \times 2 \times \boxed{9}}$ $D = \frac{7}{22}$	$E = \frac{-9}{4} \times \frac{-2}{5}$ $E = + \frac{9 \times 2}{4 \times 5}$ $E = \frac{9 \times \boxed{2}}{2 \times \boxed{2} \times 5}$ $E = \frac{9}{10}$	$F = \frac{3}{-4} \times \frac{8}{-7}$ $F = + \frac{3 \times 8}{4 \times 7}$ $F = \frac{3 \times \boxed{4} \times 2}{\boxed{4} \times 7}$ $F = \frac{6}{7}$	$G = \frac{-4}{5} \times \frac{-7}{6}$ $G = + \frac{4 \times 7}{5 \times 6}$ $G = \frac{2 \times \boxed{2} \times 7}{5 \times 3 \times \boxed{2}}$ $G = \frac{14}{15}$	$H = \frac{7}{-10} \times \frac{-15}{-2}$ $H = - \frac{7 \times 15}{10 \times 2}$ $H = - \frac{7 \times \boxed{5} \times 3}{\boxed{5} \times 2 \times 2}$ $H = - \frac{21}{4}$
$I = \frac{-21}{-2} \times \frac{-5}{-28}$ $I = + \frac{21 \times 5}{2 \times 28}$ $I = \frac{\boxed{7} \times 3 \times 5}{2 \times \boxed{7} \times 4}$ $I = \frac{15}{8}$	$J = \frac{-2}{35} \times \frac{-25}{6}$ $J = + \frac{2 \times 25}{35 \times 6}$ $J = \frac{\boxed{2} \times 5 \times \boxed{5}}{7 \times \boxed{5} \times \boxed{2} \times 3}$ $J = \frac{5}{21}$	$K = \frac{21}{-8} \times \frac{-22}{15}$ $K = \frac{21 \times 22}{8 \times 15}$ $K = \frac{\boxed{3} \times 7 \times \boxed{2} \times 11}{\boxed{2} \times 4 \times \boxed{3} \times 5}$ $K = \frac{77}{20}$	$L = - \frac{-6}{-15} \times \frac{-20}{-8}$ $L = - \frac{6 \times 20}{15 \times 8}$ $L = - \frac{\boxed{2} \times \boxed{3} \times \boxed{5} \times \boxed{4}}{\boxed{3} \times \boxed{5} \times \boxed{2} \times \boxed{4}}$ $L = -1$	$M = \frac{2}{-3} \times \frac{-11}{5} \times \frac{-5}{7}$ $M = - \frac{2 \times 11 \times \boxed{5}}{3 \times \boxed{5} \times 7}$ $M = - \frac{22}{21}$
$N = \frac{-3}{-4} \times \frac{-5}{-2} \times \frac{4}{3}$ $N = + \frac{\boxed{3} \times 5 \times \boxed{4}}{\boxed{4} \times 2 \times \boxed{3}}$ $N = \frac{5}{2}$	$O = \frac{-2}{-11} \times \frac{-5}{-6} \times \frac{-3}{35}$ $O = - \frac{2 \times 5 \times 3}{11 \times 6 \times 35}$ $O = - \frac{\boxed{2} \times \boxed{5} \times \boxed{3}}{11 \times \boxed{2} \times \boxed{3} \times 7 \times \boxed{5}}$ $O = - \frac{1}{77}$	$P = \frac{-4}{15} \times \left( \frac{-21}{-6} \right) \times \frac{-10}{14}$ $P = - \frac{4 \times 21 \times 10}{15 \times 6 \times 14}$ $P = - \frac{2 \times \boxed{2} \times \boxed{7} \times \boxed{3} \times \boxed{5} \times \boxed{2}}{\boxed{3} \times \boxed{5} \times \boxed{2} \times 3 \times \boxed{2} \times \boxed{7}}$ $P = - \frac{2}{3}$	$Q = \frac{8}{25} \times \frac{77}{6} \times \left( \frac{-20}{88} \right)$ $Q = - \frac{8 \times 77 \times 20}{25 \times 6 \times 88}$ $Q = - \frac{\boxed{8} \times \boxed{11} \times 7 \times \boxed{5} \times 4}{\boxed{5} \times 5 \times 6 \times \boxed{8} \times \boxed{11}}$ $Q = - \frac{7 \times 2 \times \boxed{2}}{5 \times 3 \times \boxed{2}}$ $Q = - \frac{14}{15}$	$R = \frac{23}{51} \times \frac{-13}{-19} \times \frac{-7}{9} \times \frac{0}{34}$ $R = - \frac{23 \times 13 \times 7 \times 0}{51 \times 19 \times 9 \times 34}$ $R = 0$