Addition et soustraction de fractions ayant des dénominateurs non multiples

Exercice n°1 : Mettre au même dénominateur et calculer en détaillant.

$A = \frac{4}{3} + \frac{3}{7}$ $A = \frac{4 \times \ldots.}{3 \times \ldots.} + \frac{3 \times \ldots.}{7 \times \ldots.}$ $A = \frac{\ldots\ldots}{\ldots\ldots} + \frac{\ldots\ldots}{\ldots\ldots}$ $A = \frac{\ldots\ldots\ldots\ldots}{\ldots\ldots\ldots\ldots}$	$B = \frac{7}{-9} + \frac{-5}{8}$	$C = \frac{-1}{5} - \frac{1}{7}$	$D = \frac{-2}{5} + \frac{9}{11}$

Exercice n°2 : Mettre au même dénominateur et calculer en détaillant. Donner le résultat sous la forme d'une fraction irréductible.

$A = \frac{7}{4} + \frac{3}{6}$	$B = \frac{-1}{5} + \frac{-9}{3}$	$C = \frac{-3}{4} - \frac{-5}{6}$
$D = \frac{2}{10} + \frac{-9}{3}$	$E = \frac{9}{6} - \frac{3}{7}$	$F = \frac{4}{10} + \frac{3}{8}$
$G = \frac{8}{6} + \frac{-3}{9}$	$H = \frac{-5}{3} + \frac{8}{4}$	$I = \frac{-3}{-10} - \frac{-6}{9}$
$J = \frac{4}{5} - \frac{2}{8}$	$K = \frac{-7}{4} + \frac{5}{7}$	$L = \frac{7}{-2} + \frac{-9}{-7}$
$M = \frac{-4}{-9} + \frac{8}{4}$	$N = \frac{-7}{-5} + \frac{8}{-4}$	$O = \frac{6}{5} + \frac{-3}{9}$
$P = \frac{-5}{6} + \frac{-1}{9}$	$Q = \frac{1}{4} + \frac{9}{10}$	$R = \frac{3}{9} - \frac{1}{10}$

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Correction

Exercice n°1 : Mettre au même dénominateur et calculer en détaillant.

$A = \frac{4}{3} + \frac{3}{7}$ $A = \frac{4 \times 7}{3 \times 7} + \frac{3 \times 3}{7 \times 3}$ $A = \frac{28}{21} + \frac{9}{21}$ $A = \frac{37}{21}$	$B = \frac{7}{-9} + \frac{-5}{8}$ $B = \frac{7 \times 8}{-9 \times 8} + \frac{-5 \times (-9)}{8 \times (-9)}$ $B = \frac{56}{-72} + \frac{45}{-72}$ $B = -\frac{101}{72}$	$C = \frac{-1}{5} - \frac{1}{7}$ $C = \frac{-1 \times 7}{5 \times 7} + \frac{1 \times 5}{7 \times 5}$ $C = \frac{-7}{35} - \frac{5}{35}$ $C = -\frac{12}{35}$	$D = \frac{-2}{5} + \frac{9}{11}$ $D = \frac{-2 \times 11}{5 \times 11} + \frac{9 \times 5}{11 \times 5}$ $D = \frac{-22}{55} + \frac{45}{55}$ $D = \frac{23}{55}$

Exercice n°2 : Mettre au même dénominateur et calculer en détaillant. Donner le résultat sous la forme d'une fraction irréductible.

$A = \frac{7}{4} + \frac{3}{6}$ $A = \frac{7 \times 6}{4 \times 6} + \frac{3 \times 4}{6 \times 4}$ $A = \frac{42}{24} + \frac{12}{24}$ $A = \frac{54}{24} = \frac{9 \times \cancel{6}}{4 \times \cancel{6}} = \frac{9}{4}$	$B = \frac{-1}{5} + \frac{-9}{3}$ $B = \frac{-1 \times 3}{5 \times 3} + \frac{(-9) \times 5}{3 \times 5}$ $B = \frac{-3}{15} + \frac{-45}{15}$ $B = \frac{-48}{15} = \frac{-16 \times \cancel{3}}{5 \times \cancel{3}} = -\frac{16}{5}$	$C = \frac{-3}{4} - \frac{-5}{6}$ $C = \frac{-3 \times 6}{4 \times 6} - \frac{(-5) \times 4}{6 \times 4}$ $C = \frac{-18}{24} - \frac{-20}{24}$ $C = \frac{-18}{24} + \frac{20}{24}$ $C = \frac{2}{24} = \frac{1 \times \cancel{2}}{12 \times \cancel{2}} = \frac{1}{12}$
$D = \frac{2}{10} + \frac{-9}{3}$ $D = \frac{2 \times 3}{10 \times 3} + \frac{(-9) \times 10}{3 \times 10}$ $D = \frac{6}{30} + \frac{-90}{30}$ $D = \frac{-84}{30} = -\frac{14 \times \cancel{6}}{5 \times \cancel{6}} = -\frac{14}{5}$	$E = \frac{9}{6} - \frac{3}{7}$ $E = \frac{9 \times 7}{6 \times 7} - \frac{3 \times 6}{7 \times 6}$ $E = \frac{63}{42} - \frac{18}{42}$ $E = \frac{45}{42} = \frac{15 \times \cancel{3}}{14 \times \cancel{3}} = \frac{15}{14}$	$F = \frac{4}{10} + \frac{3}{8}$ $F = \frac{4 \times 8}{10 \times 8} + \frac{3 \times 10}{8 \times 10}$ $F = \frac{32}{80} + \frac{30}{80}$ $F = \frac{62}{80} = \frac{31 \times \cancel{2}}{40 \times \cancel{2}} = \frac{31}{40}$
$G = \frac{8}{6} + \frac{-3}{9}$ $G = \frac{8 \times 9}{6 \times 9} + \frac{(-3) \times 6}{9 \times 6}$	$H = \frac{-5}{3} + \frac{8}{4}$ $H = \frac{-5 \times 4}{3 \times 4} + \frac{8 \times 3}{4 \times 3}$	$I = \frac{-3}{-10} - \frac{-6}{9}$ $I = \frac{-3 \times 9}{-10 \times 9} - \frac{(-6) \times (-10)}{9 \times (-10)}$

$G = \frac{72}{54} + \frac{-18}{54}$

$G = \frac{54}{54} = 1$

$H = \frac{-20}{12} + \frac{24}{12}$

$H = \frac{4}{12} = \frac{1 \times \cancel{4}}{3 \times \cancel{4}} = \frac{1}{3}$

$I = \frac{-27}{-90} - \frac{60}{-90}$

$I = \frac{27}{90} + \frac{60}{90}$

$I = \frac{87}{90} = \frac{\cancel{3} \times 29}{\cancel{3} \times 30} = \frac{29}{30}$

$J = \frac{4}{5} - \frac{2}{8}$

$J = \frac{4 \times 8}{5 \times 8} - \frac{2 \times 5}{8 \times 5}$

$J = \frac{32}{40} - \frac{10}{40}$

$J = \frac{22}{40} = \frac{11 \times \cancel{2}}{20 \times \cancel{2}} = \frac{11}{20}$

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

$K = \frac{-7 \times 7}{4 \times 7} + \frac{5 \times 4}{7 \times 4}$

$K = \frac{-49}{28} + \frac{20}{28}$

$K = \frac{-29}{28}$

$L = \frac{7}{-2} + \frac{-9}{-7}$

$L = \frac{7 \times (-7)}{-2 \times (-7)} + \frac{(-9) \times (-2)}{(-7) \times (-2)}$

$L = \frac{-49}{14} + \frac{18}{14}$

$L = \frac{-31}{14}$

$M = \frac{-4}{-9} + \frac{8}{4}$

$M = \frac{-4 \times 4}{-9 \times 4} + \frac{8 \times (-9)}{4 \times (-9)}$

$M = \frac{-16}{-36} + \frac{-72}{-36}$

$M = \frac{16}{36} + \frac{72}{36}$

$M = \frac{88}{36} = \frac{\cancel{4} \times 22}{\cancel{4} \times 9} = \frac{22}{9}$

$N = \frac{-7}{-5} + \frac{8}{-4}$

$N = \frac{-7 \times (-4)}{-5 \times (-4)} + \frac{8 \times (-5)}{-4 \times (-5)}$

$N = \frac{28}{20} + \frac{-40}{20}$

$N = \frac{-12}{20} = \frac{\cancel{4} \times 3}{\cancel{4} \times 5} = \frac{3}{5}$

$O = \frac{6}{5} + \frac{-3}{9}$

$O = \frac{6 \times 9}{5 \times 9} + \frac{(-3) \times 5}{9 \times 5}$

$O = \frac{54}{45} + \frac{-15}{45}$

$O = \frac{39}{45} = \frac{13 \times \cancel{3}}{15 \times \cancel{3}} = \frac{13}{15}$

$P = \frac{-5}{6} + \frac{-1}{9}$

$P = \frac{-5 \times 9}{6 \times 9} + \frac{(-1) \times 6}{9 \times 6}$

$P = \frac{-45}{54} + \frac{-6}{54}$

$P = \frac{-51}{54} = -\frac{\cancel{3} \times 17}{\cancel{3} \times 18} = -\frac{17}{18}$

$Q = \frac{1}{4} + \frac{9}{10}$

$Q = \frac{1 \times 10}{4 \times 10} + \frac{9 \times 4}{10 \times 4}$

$Q = \frac{10}{40} + \frac{36}{40}$

$Q = \frac{46}{40} = \frac{\cancel{2} \times 23}{\cancel{2} \times 20} = \frac{23}{20}$

$R = \frac{3}{9} - \frac{1}{10}$

$R = \frac{3 \times 10}{9 \times 10} - \frac{1 \times 9}{10 \times 9}$

$R = \frac{30}{90} - \frac{9}{90}$

$R = \frac{21}{90} = \frac{7 \times \cancel{3}}{30 \times \cancel{3}} = \frac{7}{30}$