Corrigé de l'exercice 1

Calculer les expressions suivantes et donner le résultat sous la forme d'une fraction irréductible.

$A = \dfrac{5}{4} \times \left(\dfrac{7}{13} + \dfrac{-11}{6} \right)$

$A = \dfrac{5}{4} \times \left(\dfrac{7_{\times 6}}{13_{\times 6}} + \dfrac{-11_{\times 13}}{6_{\times 13}} \right)$

$A = \dfrac{5}{4} \times \left(\dfrac{42}{78} + \dfrac{-143}{78} \right)$

$A = \dfrac{5}{4} \times \dfrac{-101}{78}$

$A = \dfrac{5}{-4 \times \cancel{1}} \times \dfrac{101 \times \cancel{1}}{78}$

$$\boxed{A = \dfrac{-505}{312}}$$

$B = \dfrac{\dfrac{-7}{5} - 2}{\dfrac{-8}{3} + 1}$

$B = \dfrac{\dfrac{-7}{5} - \dfrac{2_{\times 5}}{1_{\times 5}}}{\dfrac{-8}{3} + \dfrac{1_{\times 3}}{1_{\times 3}}}$

$B = \dfrac{\dfrac{-7}{5} - \dfrac{10}{5}}{\dfrac{-8}{3} + \dfrac{3}{3}}$

$B = \dfrac{-17}{5} \div \dfrac{-5}{3}$

$B = \dfrac{-17}{5} \times \dfrac{-3}{5}$

$B = \dfrac{-17}{-5 \times \cancel{1}} \times \dfrac{3 \times \cancel{1}}{5}$

$$\boxed{B = \dfrac{51}{25}}$$

$C = \dfrac{-32}{7} - \dfrac{-4}{49} \times \dfrac{21}{8}$

$C = \dfrac{-32}{7} - \dfrac{-1 \times \cancel{4}}{7 \times \cancel{7}} \times \dfrac{3 \times \cancel{7}}{2 \times \cancel{4}}$

$C = \dfrac{-32}{7} - \dfrac{-3}{14}$

$C = \dfrac{-32_{\times 2}}{7_{\times 2}} - \dfrac{-3}{14}$

$C = \dfrac{-64}{14} - \dfrac{-3}{14}$

$$\boxed{C = \dfrac{-61}{14}}$$

Corrigé de l'exercice 2

Calculer les expressions suivantes et donner le résultat sous la forme d'une fraction irréductible.

$A = \dfrac{3}{8} \div \left(\dfrac{1}{13} + \dfrac{3}{10} \right)$

$A = \dfrac{3}{8} \div \left(\dfrac{1_{\times 10}}{13_{\times 10}} + \dfrac{3_{\times 13}}{10_{\times 13}} \right)$

$A = \dfrac{3}{8} \div \left(\dfrac{10}{130} + \dfrac{39}{130} \right)$

$A = \dfrac{3}{8} \div \dfrac{49}{130}$

$A = \dfrac{3}{8} \times \dfrac{130}{49}$

$A = \dfrac{3}{4 \times \cancel{2}} \times \dfrac{65 \times \cancel{2}}{49}$

$$\boxed{A = \dfrac{195}{196}}$$

$B = \dfrac{\dfrac{5}{6} + 10}{\dfrac{-10}{7} + 4}$

$B = \dfrac{\dfrac{5}{6} + \dfrac{10_{\times 6}}{1_{\times 6}}}{\dfrac{-10}{7} + \dfrac{4_{\times 7}}{1_{\times 7}}}$

$B = \dfrac{\dfrac{5}{6} + \dfrac{60}{6}}{\dfrac{-10}{7} + \dfrac{28}{7}}$

$B = \dfrac{65}{6} \div \dfrac{18}{7}$

$B = \dfrac{65}{6} \times \dfrac{7}{18}$

$B =$

$$\boxed{B = \dfrac{455}{108}}$$

$C = \dfrac{-39}{4} + \dfrac{-39}{64} \div \dfrac{65}{48}$

$C = \dfrac{-39}{4} + \dfrac{-39}{64} \times \dfrac{48}{65}$

$C = \dfrac{-39}{4} + \dfrac{-3 \times \cancel{13}}{4 \times \cancel{16}} \times \dfrac{3 \times \cancel{16}}{5 \times \cancel{13}}$

$C = \dfrac{-39}{4} + \dfrac{-9}{20}$

$C = \dfrac{-39_{\times 5}}{4_{\times 5}} + \dfrac{-9}{20}$

$C = \dfrac{-195}{20} + \dfrac{-9}{20}$

$C = \dfrac{-204}{20}$

$$\boxed{C = \dfrac{-51}{5}}$$

Corrigé de l'exercice 3

Calculer les expressions suivantes et donner le résultat sous la forme d'une fraction irréductible.

$$A = \frac{54}{7} - \frac{-9}{7} \times \frac{49}{81}$$

$$A = \frac{54}{7} - \frac{-1 \times \cancel{9}}{1 \times \cancel{7}} \times \frac{7 \times \cancel{7}}{9 \times \cancel{9}}$$

$$A = \frac{54}{7} - \frac{-7}{9}$$

$$A = \frac{54_{\times 9}}{7_{\times 9}} - \frac{-7_{\times 7}}{9_{\times 7}}$$

$$A = \frac{486}{63} - \frac{-49}{63}$$

$$\boxed{A = \frac{535}{63}}$$

$$B = \frac{3}{2} \div \left(\frac{-11}{3} - \frac{1}{4} \right)$$

$$B = \frac{3}{2} \div \left(\frac{-11_{\times 4}}{3_{\times 4}} - \frac{1_{\times 3}}{4_{\times 3}} \right)$$

$$B = \frac{3}{2} \div \left(\frac{-44}{12} - \frac{3}{12} \right)$$

$$B = \frac{3}{2} \div \frac{-47}{12}$$

$$B = \frac{3}{2} \times \frac{-12}{47}$$

$$B = \frac{3}{-1 \times \cancel{2}} \times \frac{6 \times \cancel{2}}{47}$$

$$\boxed{B = \frac{-18}{47}}$$

$$C = \frac{\dfrac{-4}{5} + 7}{\dfrac{3}{8} + 7}$$

$$C = \frac{\dfrac{-4}{5} + \dfrac{7_{\times 5}}{1_{\times 5}}}{\dfrac{3}{8} + \dfrac{7_{\times 8}}{1_{\times 8}}}$$

$$C = \frac{\dfrac{-4}{5} + \dfrac{35}{5}}{\dfrac{3}{8} + \dfrac{56}{8}}$$

$$C = \frac{31}{5} \div \frac{59}{8}$$

$$C = \frac{31}{5} \times \frac{8}{59}$$

$$C =$$

$$\boxed{C = \frac{248}{295}}$$

Corrigé de l'exercice 4

Calculer les expressions suivantes et donner le résultat sous la forme d'une fraction irréductible.

$$A = \frac{-5}{6} \div \left(\frac{-10}{9} + \frac{-3}{2} \right)$$

$$A = \frac{-5}{6} \div \left(\frac{-10_{\times 2}}{9_{\times 2}} + \frac{-3_{\times 9}}{2_{\times 9}} \right)$$

$$A = \frac{-5}{6} \div \left(\frac{-20}{18} + \frac{-27}{18} \right)$$

$$A = \frac{-5}{6} \div \frac{-47}{18}$$

$$A = \frac{-5}{6} \times \frac{-18}{47}$$

$$A = \frac{-5}{-1 \times \cancel{6}} \times \frac{3 \times \cancel{6}}{47}$$

$$\boxed{A = \frac{15}{47}}$$

$$B = \frac{\dfrac{-8}{9} - 6}{\dfrac{-1}{3} + 7}$$

$$B = \frac{\dfrac{-8}{9} - \dfrac{6_{\times 9}}{1_{\times 9}}}{\dfrac{-1}{3} + \dfrac{7_{\times 3}}{1_{\times 3}}}$$

$$B = \frac{\dfrac{-8}{9} - \dfrac{54}{9}}{\dfrac{-1}{3} + \dfrac{21}{3}}$$

$$B = \frac{-62}{9} \div \frac{20}{3}$$

$$B = \frac{-62}{9} \times \frac{3}{20}$$

$$B = \frac{-31 \times \cancel{2}}{3 \times \cancel{3}} \times \frac{1 \times \cancel{3}}{10 \times \cancel{2}}$$

$$\boxed{B = \frac{-31}{30}}$$

$$C = \frac{7}{5} - \frac{14}{15} \times \frac{50}{21}$$

$$C = \frac{7}{5} - \frac{2 \times \cancel{7}}{3 \times \cancel{5}} \times \frac{10 \times \cancel{5}}{3 \times \cancel{7}}$$

$$C = \frac{7}{5} - \frac{20}{9}$$

$$C = \frac{7_{\times 9}}{5_{\times 9}} - \frac{20_{\times 5}}{9_{\times 5}}$$

$$C = \frac{63}{45} - \frac{100}{45}$$

$$\boxed{C = \frac{-37}{45}}$$

Corrigé de l'exercice 5

Calculer les expressions suivantes et donner le résultat sous la forme d'une fraction irréductible.

$A = \dfrac{-3}{4} \times \left(\dfrac{12}{13} - \dfrac{2}{11} \right)$

$A = \dfrac{-3}{4} \times \left(\dfrac{12_{\times 11}}{13_{\times 11}} - \dfrac{2_{\times 13}}{11_{\times 13}} \right)$

$A = \dfrac{-3}{4} \times \left(\dfrac{132}{143} - \dfrac{26}{143} \right)$

$A = \dfrac{-3}{4} \times \dfrac{106}{143}$

$A = \dfrac{-3}{2 \times \cancel{2}} \times \dfrac{53 \times \cancel{2}}{143}$

$\boxed{A = \dfrac{-159}{286}}$

$B = -15 + \dfrac{-1}{2} \div -2$

$B = -15 + \dfrac{-1}{2} \times \dfrac{-1}{2}$

$B = -15 + \dfrac{-1}{-2 \times \cancel{-1}} \times \dfrac{1 \times \cancel{-1}}{2}$

$B = -15 + \dfrac{1}{4}$

$B = \dfrac{-15_{\times 4}}{1_{\times 4}} + \dfrac{1}{4}$

$B = \dfrac{-60}{4} + \dfrac{1}{4}$

$\boxed{B = \dfrac{-59}{4}}$

$C = \dfrac{\dfrac{-5}{4} - 1}{\dfrac{-5}{6} + 9}$

$C = \dfrac{\dfrac{-5}{4} - \dfrac{1_{\times 4}}{1_{\times 4}}}{\dfrac{-5}{6} + \dfrac{9_{\times 6}}{1_{\times 6}}}$

$C = \dfrac{\dfrac{-5}{4} - \dfrac{4}{4}}{\dfrac{-5}{6} + \dfrac{54}{6}}$

$C = \dfrac{-9}{4} \div \dfrac{49}{6}$

$C = \dfrac{-9}{4} \times \dfrac{6}{49}$

$C = \dfrac{-9}{2 \times \cancel{2}} \times \dfrac{3 \times \cancel{2}}{49}$

$\boxed{C = \dfrac{-27}{98}}$