Corrigé de l'exercice 1

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

$A = \dfrac{-12}{11} - \dfrac{20}{99} \div \dfrac{20}{33}$

$A = \dfrac{-12}{11} - \dfrac{20}{99} \times \dfrac{33}{20}$

$A = \dfrac{-12}{11} - \dfrac{1 \times \cancel{20}}{3 \times \cancel{33}} \times \dfrac{1 \times \cancel{33}}{1 \times \cancel{20}}$

$A = \dfrac{-12}{11} - \dfrac{1}{3}$

$A = \dfrac{-12_{\times 3}}{11_{\times 3}} - \dfrac{1_{\times 11}}{3_{\times 11}}$

$A = \dfrac{-36}{33} - \dfrac{11}{33}$

$\boxed{A = \dfrac{-47}{33}}$

$B = \dfrac{-5}{4} \div \left(\dfrac{13}{8} - \dfrac{-8}{5}\right)$

$B = \dfrac{-5}{4} \div \left(\dfrac{13_{\times 5}}{8_{\times 5}} - \dfrac{-8_{\times 8}}{5_{\times 8}}\right)$

$B = \dfrac{-5}{4} \div \left(\dfrac{65}{40} - \dfrac{-64}{40}\right)$

$B = \dfrac{-5}{4} \div \dfrac{129}{40}$

$B = \dfrac{-5}{4} \times \dfrac{40}{129}$

$B = \dfrac{-5}{1 \times \cancel{4}} \times \dfrac{10 \times \cancel{4}}{129}$

$\boxed{B = \dfrac{-50}{129}}$

$C = \dfrac{\dfrac{7}{2} + 10}{\dfrac{4}{3} + 6}$

$C = \dfrac{\dfrac{7}{2} + \dfrac{10_{\times 2}}{1_{\times 2}}}{\dfrac{4}{3} + \dfrac{6_{\times 3}}{1_{\times 3}}}$

$C = \dfrac{\dfrac{7}{2} + \dfrac{20}{2}}{\dfrac{4}{3} + \dfrac{18}{3}}$

$C = \dfrac{27}{2} \div \dfrac{22}{3}$

$C = \dfrac{27}{2} \times \dfrac{3}{22}$

$C =$

$\boxed{C = \dfrac{81}{44}}$

Corrigé de l'exercice 2

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

$A = 9 + \dfrac{-1}{10} \times \dfrac{7}{5}$

$A = 9 + \dfrac{-7}{50}$

$A = \dfrac{9_{\times 50}}{1_{\times 50}} + \dfrac{-7}{50}$

$A = \dfrac{450}{50} + \dfrac{-7}{50}$

$\boxed{A = \dfrac{443}{50}}$

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

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

$B = \dfrac{\dfrac{8}{3} + \dfrac{15}{3}}{\dfrac{-2}{3} + \dfrac{3}{3}}$

$B = \dfrac{23}{3} \div \dfrac{1}{3}$

$B = \dfrac{23}{3} \times 3$

$B = \dfrac{23}{1 \times \cancel{3}} \times \dfrac{1 \times \cancel{3}}{1}$

$\boxed{B = 23}$

$C = \dfrac{5}{4} \div \left(\dfrac{-2}{9} + \dfrac{5}{8}\right)$

$C = \dfrac{5}{4} \div \left(\dfrac{-2_{\times 8}}{9_{\times 8}} + \dfrac{5_{\times 9}}{8_{\times 9}}\right)$

$C = \dfrac{5}{4} \div \left(\dfrac{-16}{72} + \dfrac{45}{72}\right)$

$C = \dfrac{5}{4} \div \dfrac{29}{72}$

$C = \dfrac{5}{4} \times \dfrac{72}{29}$

$C = \dfrac{5}{1 \times \cancel{4}} \times \dfrac{18 \times \cancel{4}}{29}$

$\boxed{C = \dfrac{90}{29}}$

Corrigé de l'exercice 3

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

$$A = \frac{4}{3} \div \left(\frac{1}{6} - \frac{13}{5}\right)$$
$$A = \frac{4}{3} \div \left(\frac{1_{\times 5}}{6_{\times 5}} - \frac{13_{\times 6}}{5_{\times 6}}\right)$$
$$A = \frac{4}{3} \div \left(\frac{5}{30} - \frac{78}{30}\right)$$
$$A = \frac{4}{3} \div \frac{-73}{30}$$
$$A = \frac{4}{3} \times \frac{-30}{73}$$
$$A = \frac{4}{-1 \times \cancel{-3}} \times \frac{10 \times \cancel{-3}}{73}$$
$$\boxed{A = \frac{-40}{73}}$$

$$B = \frac{\frac{4}{7} - 2}{\frac{-7}{8} + 1}$$
$$B = \frac{\frac{4}{7} - \frac{2_{\times 7}}{1_{\times 7}}}{\frac{-7}{8} + \frac{1_{\times 8}}{1_{\times 8}}}$$
$$B = \frac{\frac{4}{7} - \frac{14}{7}}{\frac{-7}{8} + \frac{8}{8}}$$
$$B = \frac{-10}{7} \div \frac{1}{8}$$
$$B = \frac{-10}{7} \times 8$$
$$B =$$
$$\boxed{B = \frac{-80}{7}}$$

$$C = 9 - \frac{9}{10} \times \frac{80}{27}$$
$$C = 9 - \frac{1 \times \cancel{9}}{1 \times \cancel{10}} \times \frac{8 \times \cancel{10}}{3 \times \cancel{9}}$$
$$C = 9 - \frac{8}{3}$$
$$C = \frac{9_{\times 3}}{1_{\times 3}} - \frac{8}{3}$$
$$C = \frac{27}{3} - \frac{8}{3}$$
$$\boxed{C = \frac{19}{3}}$$

Corrigé de l'exercice 4

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

$$A = \frac{\frac{9}{4} - 8}{\frac{-1}{2} - 2}$$
$$A = \frac{\frac{9}{4} - \frac{8_{\times 4}}{1_{\times 4}}}{\frac{-1}{2} - \frac{2_{\times 2}}{1_{\times 2}}}$$
$$A = \frac{\frac{9}{4} - \frac{32}{4}}{\frac{-1}{2} - \frac{4}{2}}$$
$$A = \frac{-23}{4} \div \frac{-5}{2}$$
$$A = \frac{-23}{4} \times \frac{-2}{5}$$
$$A = \frac{-23}{-2 \times \cancel{-2}} \times \frac{1 \times \cancel{-2}}{5}$$
$$\boxed{A = \frac{23}{10}}$$

$$B = -63 - \frac{-7}{5} \times \frac{3}{28}$$
$$B = -63 - \frac{-1 \times \cancel{7}}{5} \times \frac{3}{4 \times \cancel{7}}$$
$$B = -63 - \frac{-3}{20}$$
$$B = \frac{-63_{\times 20}}{1_{\times 20}} - \frac{-3}{20}$$
$$B = \frac{-1260}{20} - \frac{-3}{20}$$
$$\boxed{B = \frac{-1\,257}{20}}$$

$$C = \frac{-1}{3} \div \left(\frac{1}{5} + \frac{6}{7}\right)$$
$$C = \frac{-1}{3} \div \left(\frac{1_{\times 7}}{5_{\times 7}} + \frac{6_{\times 5}}{7_{\times 5}}\right)$$
$$C = \frac{-1}{3} \div \left(\frac{7}{35} + \frac{30}{35}\right)$$
$$C = \frac{-1}{3} \div \frac{37}{35}$$
$$C = \frac{-1}{3} \times \frac{35}{37}$$
$$C =$$
$$\boxed{C = \frac{-35}{111}}$$

Corrigé de l'exercice 5

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

$$A = \frac{-32}{7} - \frac{8}{21} \times \frac{49}{24}$$
$$A = \frac{-32}{7} - \frac{1 \times \cancel{8}}{3 \times \cancel{7}} \times \frac{7 \times \cancel{7}}{3 \times \cancel{8}}$$
$$A = \frac{-32}{7} - \frac{7}{9}$$
$$A = \frac{-32_{\times 9}}{7_{\times 9}} - \frac{7_{\times 7}}{9_{\times 7}}$$
$$A = \frac{-288}{63} - \frac{49}{63}$$
$$\boxed{A = \frac{-337}{63}}$$

$$B = \frac{7}{8} \div \left(\frac{-7}{9} - \frac{-11}{8} \right)$$
$$B = \frac{7}{8} \div \left(\frac{-7_{\times 8}}{9_{\times 8}} - \frac{-11_{\times 9}}{8_{\times 9}} \right)$$
$$B = \frac{7}{8} \div \left(\frac{-56}{72} - \frac{-99}{72} \right)$$
$$B = \frac{7}{8} \div \frac{43}{72}$$
$$B = \frac{7}{8} \times \frac{72}{43}$$
$$B = \frac{7}{1 \times \cancel{8}} \times \frac{9 \times \cancel{8}}{43}$$
$$\boxed{B = \frac{63}{43}}$$

$$C = \frac{\frac{-1}{2} + 9}{\frac{-7}{5} - 5}$$
$$C = \frac{\frac{-1}{2} + \frac{9_{\times 2}}{1_{\times 2}}}{\frac{-7}{5} - \frac{5_{\times 5}}{1_{\times 5}}}$$
$$C = \frac{\frac{-1}{2} + \frac{18}{2}}{\frac{-7}{5} - \frac{25}{5}}$$
$$C = \frac{17}{2} \div \frac{-32}{5}$$
$$C = \frac{17}{2} \times \frac{-5}{32}$$
$$C = \frac{17}{-2 \times \cancel{-1}} \times \frac{5 \times \cancel{-1}}{32}$$
$$\boxed{C = \frac{-85}{64}}$$

Corrigé de l'exercice 6

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

$$A = \frac{25}{13} - \frac{-2}{13} \times \frac{13}{5}$$
$$A = \frac{25}{13} - \frac{-2}{1 \times \cancel{13}} \times \frac{1 \times \cancel{13}}{5}$$
$$A = \frac{25}{13} - \frac{-2}{5}$$
$$A = \frac{25_{\times 5}}{13_{\times 5}} - \frac{-2_{\times 13}}{5_{\times 13}}$$
$$A = \frac{125}{65} - \frac{-26}{65}$$
$$\boxed{A = \frac{151}{65}}$$

$$B = \frac{\frac{10}{7} + 5}{\frac{-5}{9} + 8}$$
$$B = \frac{\frac{10}{7} + \frac{5_{\times 7}}{1_{\times 7}}}{\frac{-5}{9} + \frac{8_{\times 9}}{1_{\times 9}}}$$
$$B = \frac{\frac{10}{7} + \frac{35}{7}}{\frac{-5}{9} + \frac{72}{9}}$$
$$B = \frac{45}{7} \div \frac{67}{9}$$
$$B = \frac{45}{7} \times \frac{9}{67}$$
$$B =$$
$$\boxed{B = \frac{405}{469}}$$

$$C = \frac{5}{4} \times \left(\frac{9}{2} + \frac{-8}{3} \right)$$
$$C = \frac{5}{4} \times \left(\frac{9_{\times 3}}{2_{\times 3}} + \frac{-8_{\times 2}}{3_{\times 2}} \right)$$
$$C = \frac{5}{4} \times \left(\frac{27}{6} + \frac{-16}{6} \right)$$
$$C = \frac{5}{4} \times \frac{11}{6}$$
$$C =$$
$$\boxed{C = \frac{55}{24}}$$