Corrigé de l'exercice 1

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

$A = \frac{3}{5} \div \left(\frac{13}{8} - \frac{9}{13}\right)$

$A = \frac{3}{5} \div \left(\frac{13_{\times 13}}{8_{\times 13}} - \frac{9_{\times 8}}{13_{\times 8}}\right)$

$A = \frac{3}{5} \div \left(\frac{169}{104} - \frac{72}{104}\right)$

$A = \frac{3}{5} \div \frac{97}{104}$

$A = \frac{3}{5} \times \frac{104}{97}$

$A =$

$\boxed{A = \frac{312}{485}}$

$B = \frac{9}{2} - \frac{5}{4} \times \frac{-7}{3}$

$B = \frac{9}{2} - \frac{5}{-4 \times \cancel{-1}} \times \frac{7 \times \cancel{-1}}{3}$

$B = \frac{9}{2} - \frac{-35}{12}$

$B = \frac{9_{\times 6}}{2_{\times 6}} - \frac{-35}{12}$

$B = \frac{54}{12} - \frac{-35}{12}$

$\boxed{B = \frac{89}{12}}$

$C = \frac{\frac{4}{5} + 1}{\frac{-7}{10} + 5}$

$C = \frac{\frac{4}{5} + \frac{1_{\times 5}}{1_{\times 5}}}{\frac{-7}{10} + \frac{5_{\times 10}}{1_{\times 10}}}$

$C = \frac{\frac{4}{5} + \frac{5}{5}}{\frac{-7}{10} + \frac{50}{10}}$

$C = \frac{9}{5} \div \frac{43}{10}$

$C = \frac{9}{5} \times \frac{10}{43}$

$C = \frac{9}{1 \times \cancel{5}} \times \frac{2 \times \cancel{5}}{43}$

$\boxed{C = \frac{18}{43}}$

Corrigé de l'exercice 2

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

$A = \frac{\frac{9}{4} + 4}{\frac{2}{3} + 8}$

$A = \frac{\frac{9}{4} + \frac{4_{\times 4}}{1_{\times 4}}}{\frac{2}{3} + \frac{8_{\times 3}}{1_{\times 3}}}$

$A = \frac{\frac{9}{4} + \frac{16}{4}}{\frac{2}{3} + \frac{24}{3}}$

$A = \frac{25}{4} \div \frac{26}{3}$

$A = \frac{25}{4} \times \frac{3}{26}$

$A =$

$\boxed{A = \frac{75}{104}}$

$B = -7 + -3 \times \frac{-3}{49}$

$B = -7 + \frac{-3}{-1 \times \cancel{-1}} \times \frac{3 \times \cancel{-1}}{49}$

$B = -7 + \frac{9}{49}$

$B = \frac{-7_{\times 49}}{1_{\times 49}} + \frac{9}{49}$

$B = \frac{-343}{49} + \frac{9}{49}$

$\boxed{B = \frac{-334}{49}}$

$C = \frac{-4}{7} \div \left(\frac{9}{4} + \frac{7}{3}\right)$

$C = \frac{-4}{7} \div \left(\frac{9_{\times 3}}{4_{\times 3}} + \frac{7_{\times 4}}{3_{\times 4}}\right)$

$C = \frac{-4}{7} \div \left(\frac{27}{12} + \frac{28}{12}\right)$

$C = \frac{-4}{7} \div \frac{55}{12}$

$C = \frac{-4}{7} \times \frac{12}{55}$

$C =$

$\boxed{C = \frac{-48}{385}}$

Corrigé de l'exercice 3

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

$$A = \frac{16}{5} - \frac{32}{25} \div \frac{16}{45}$$
$$A = \frac{16}{5} - \frac{32}{25} \times \frac{45}{16}$$
$$A = \frac{16}{5} - \frac{2 \times \cancel{16}}{5 \times \cancel{5}} \times \frac{9 \times \cancel{5}}{1 \times \cancel{16}}$$
$$A = \frac{16}{5} - \frac{18}{5}$$
$$A =$$
$$A = \frac{16}{5} - \frac{18}{5}$$
$$\boxed{A = \frac{-2}{5}}$$

$$B = \frac{\frac{7}{3} - 4}{\frac{-10}{9} - 9}$$
$$B = \frac{\frac{7}{3} - \frac{4_{\times 3}}{1_{\times 3}}}{\frac{-10}{9} - \frac{9_{\times 9}}{1_{\times 9}}}$$
$$B = \frac{\frac{7}{3} - \frac{12}{3}}{\frac{-10}{9} - \frac{81}{9}}$$
$$B = \frac{-5}{3} \div \frac{-91}{9}$$
$$B = \frac{-5}{3} \times \frac{-9}{91}$$
$$B = \frac{-5}{-1 \times \cancel{-3}} \times \frac{3 \times \cancel{-3}}{91}$$
$$\boxed{B = \frac{15}{91}}$$

$$C = \frac{9}{7} \div \left(\frac{1}{6} + \frac{3}{5}\right)$$
$$C = \frac{9}{7} \div \left(\frac{1_{\times 5}}{6_{\times 5}} + \frac{3_{\times 6}}{5_{\times 6}}\right)$$
$$C = \frac{9}{7} \div \left(\frac{5}{30} + \frac{18}{30}\right)$$
$$C = \frac{9}{7} \div \frac{23}{30}$$
$$C = \frac{9}{7} \times \frac{30}{23}$$
$$C =$$
$$\boxed{C = \frac{270}{161}}$$

Corrigé de l'exercice 4

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

$$A = \frac{\frac{-7}{5} + 5}{\frac{2}{7} + 6}$$
$$A = \frac{\frac{-7}{5} + \frac{5_{\times 5}}{1_{\times 5}}}{\frac{2}{7} + \frac{6_{\times 7}}{1_{\times 7}}}$$
$$A = \frac{\frac{-7}{5} + \frac{25}{5}}{\frac{2}{7} + \frac{42}{7}}$$
$$A = \frac{18}{5} \div \frac{44}{7}$$
$$A = \frac{18}{5} \times \frac{7}{44}$$
$$A = \frac{9 \times \cancel{2}}{5} \times \frac{7}{22 \times \cancel{2}}$$
$$\boxed{A = \frac{63}{110}}$$

$$B = \frac{2}{5} \times \left(\frac{4}{3} - \frac{6}{5}\right)$$
$$B = \frac{2}{5} \times \left(\frac{4_{\times 5}}{3_{\times 5}} - \frac{6_{\times 3}}{5_{\times 3}}\right)$$
$$B = \frac{2}{5} \times \left(\frac{20}{15} - \frac{18}{15}\right)$$
$$B = \frac{2}{5} \times \frac{2}{15}$$
$$B =$$
$$\boxed{B = \frac{4}{75}}$$

$$C = \frac{-78}{7} + \frac{-39}{35} \div \frac{130}{7}$$
$$C = \frac{-78}{7} + \frac{-39}{35} \times \frac{7}{130}$$
$$C = \frac{-78}{7} + \frac{-3 \times \cancel{13}}{5 \times \cancel{7}} \times \frac{1 \times \cancel{7}}{10 \times \cancel{13}}$$
$$C = \frac{-78}{7} + \frac{-3}{50}$$
$$C = \frac{-78_{\times 50}}{7_{\times 50}} + \frac{-3_{\times 7}}{50_{\times 7}}$$
$$C = \frac{-3900}{350} + \frac{-21}{350}$$
$$\boxed{C = \frac{-3\ 921}{350}}$$

Corrigé de l'exercice 5

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

$$A = \frac{-64}{27} + \frac{56}{27} \div \frac{-8}{27}$$
$$A = \frac{-64}{27} + \frac{56}{27} \times \frac{-27}{8}$$
$$A = \frac{-64}{27} + \frac{7 \times \cancel{8}}{-1 \times \cancel{-27}} \times \frac{1 \times \cancel{-27}}{1 \times \cancel{8}}$$
$$A = \frac{-64}{27} + -7$$
$$A = \frac{-64}{27} + \frac{-7_{\times 27}}{1_{\times 27}}$$
$$A = \frac{-64}{27} + \frac{-189}{27}$$
$$\boxed{A = \frac{-253}{27}}$$

$$B = \frac{6}{5} \div \left(\frac{-9}{13} - \frac{7}{2} \right)$$
$$B = \frac{6}{5} \div \left(\frac{-9_{\times 2}}{13_{\times 2}} - \frac{7_{\times 13}}{2_{\times 13}} \right)$$
$$B = \frac{6}{5} \div \left(\frac{-18}{26} - \frac{91}{26} \right)$$
$$B = \frac{6}{5} \div \frac{-109}{26}$$
$$B = \frac{6}{5} \times \frac{-26}{109}$$
$$B = \frac{6}{-5 \times \cancel{-1}} \times \frac{26 \times \cancel{-1}}{109}$$
$$\boxed{B = \frac{-156}{545}}$$

$$C = \frac{\frac{-8}{9} - 3}{\frac{-3}{5} + 9}$$
$$C = \frac{\frac{-8}{9} - \frac{3_{\times 9}}{1_{\times 9}}}{\frac{-3}{5} + \frac{9_{\times 5}}{1_{\times 5}}}$$
$$C = \frac{\frac{-8}{9} - \frac{27}{9}}{\frac{-3}{5} + \frac{45}{5}}$$
$$C = \frac{-35}{9} \div \frac{42}{5}$$
$$C = \frac{-35}{9} \times \frac{5}{42}$$
$$C = \frac{-5 \times \cancel{7}}{9} \times \frac{5}{6 \times \cancel{7}}$$
$$\boxed{C = \frac{-25}{54}}$$

Corrigé de l'exercice 6

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

$$A = \frac{-13}{4} - \frac{-65}{36} \times \frac{-8}{65}$$
$$A = \frac{-13}{4} - \frac{-1 \times \cancel{65}}{-9 \times \cancel{-4}} \times \frac{2 \times \cancel{-4}}{1 \times \cancel{65}}$$
$$A = \frac{-13}{4} - \frac{2}{9}$$
$$A = \frac{-13_{\times 9}}{4_{\times 9}} - \frac{2_{\times 4}}{9_{\times 4}}$$
$$A = \frac{-117}{36} - \frac{8}{36}$$
$$\boxed{A = \frac{-125}{36}}$$

$$B = \frac{10}{9} \div \left(\frac{-10}{13} - \frac{5}{12} \right)$$
$$B = \frac{10}{9} \div \left(\frac{-10_{\times 12}}{13_{\times 12}} - \frac{5_{\times 13}}{12_{\times 13}} \right)$$
$$B = \frac{10}{9} \div \left(\frac{-120}{156} - \frac{65}{156} \right)$$
$$B = \frac{10}{9} \div \frac{-185}{156}$$
$$B = \frac{10}{9} \times \frac{-156}{185}$$
$$B = \frac{2 \times \cancel{5}}{-3 \times \cancel{-3}} \times \frac{52 \times \cancel{-3}}{37 \times \cancel{5}}$$
$$\boxed{B = \frac{-104}{111}}$$

$$C = \frac{\frac{-7}{5} - 5}{\frac{-1}{9} - 1}$$
$$C = \frac{\frac{-7}{5} - \frac{5_{\times 5}}{1_{\times 5}}}{\frac{-1}{9} - \frac{1_{\times 9}}{1_{\times 9}}}$$
$$C = \frac{\frac{-7}{5} - \frac{25}{5}}{\frac{-1}{9} - \frac{9}{9}}$$
$$C = \frac{-32}{5} \div \frac{-10}{9}$$
$$C = \frac{-32}{5} \times \frac{-9}{10}$$
$$C = \frac{-16 \times \cancel{2}}{-5 \times \cancel{-1}} \times \frac{9 \times \cancel{-1}}{5 \times \cancel{2}}$$
$$\boxed{C = \frac{144}{25}}$$