

Corrigé de l'exercice 1

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

$$A = \frac{-1}{4} - 5$$

$$= \frac{-1}{9} + 1$$

$$A = \frac{-1}{4} - \frac{5 \times 4}{1 \times 4}$$

$$= \frac{-1}{9} + \frac{1 \times 9}{1 \times 9}$$

$$A = \frac{-1}{4} - \frac{20}{4}$$

$$= \frac{-1}{9} + \frac{9}{9}$$

$$A = \frac{-21}{4} \div \frac{8}{9}$$

$$A = \frac{-21}{4} \times \frac{9}{8}$$

$$A =$$

$$A = \frac{-189}{32}$$

$$B = \frac{8}{9} \times \left(\frac{1}{13} + \frac{13}{6} \right)$$

$$B = \frac{8}{9} \times \left(\frac{1 \times 6}{13 \times 6} + \frac{13 \times 13}{6 \times 13} \right)$$

$$B = \frac{8}{9} \times \left(\frac{6}{78} + \frac{169}{78} \right)$$

$$B = \frac{8}{9} \times \frac{175}{78}$$

$$B = \frac{4 \times \cancel{2}}{9} \times \frac{175}{39 \times \cancel{2}}$$

$$B = \frac{700}{351}$$

$$C = 27 - -1 \times \frac{5}{3}$$

$$C = 27 - \frac{-5}{3}$$

$$C = \frac{27 \times 3}{1 \times 3} - \frac{-5}{3}$$

$$C = \frac{81}{3} - \frac{-5}{3}$$

$$C = \frac{86}{3}$$

Corrigé de l'exercice 2

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

$$A = \frac{-33}{2} + \frac{-11}{6} \times \frac{27}{77}$$

$$A = \frac{-33}{2} + \frac{-1 \times \cancel{11}}{2 \times \cancel{3}} \times \frac{9 \times \cancel{3}}{7 \times \cancel{11}}$$

$$A = \frac{-33}{2} + \frac{-9}{14}$$

$$A = \frac{-33 \times 7}{2 \times 7} + \frac{-9}{14}$$

$$A = \frac{-231}{14} + \frac{-9}{14}$$

$$A = \frac{-240}{14}$$

$$A = \frac{-120}{7}$$

$$B = \frac{-1}{2} \div \left(\frac{7}{4} - \frac{13}{3} \right)$$

$$B = \frac{-1}{2} \div \left(\frac{7 \times 3}{4 \times 3} - \frac{13 \times 4}{3 \times 4} \right)$$

$$B = \frac{-1}{2} \div \left(\frac{21}{12} - \frac{52}{12} \right)$$

$$B = \frac{-1}{2} \div \frac{-31}{12}$$

$$B = \frac{-1}{2} \times \frac{-12}{31}$$

$$B = \frac{-1}{-1 \times \cancel{2}} \times \frac{6 \times \cancel{2}}{31}$$

$$B = \frac{6}{31}$$

$$C = \frac{7}{10} + 3$$

$$= \frac{7}{5} + 5$$

$$C = \frac{7}{10} + \frac{3 \times 10}{1 \times 10}$$

$$= \frac{7}{5} + \frac{5 \times 5}{1 \times 5}$$

$$C = \frac{7}{10} + \frac{30}{10}$$

$$= \frac{37}{10} + \frac{25}{10}$$

$$C = \frac{37}{10} \div \frac{28}{5}$$

$$C = \frac{37}{10} \times \frac{5}{28}$$

$$C = \frac{37}{2 \times \cancel{5}} \times \frac{1 \times \cancel{5}}{28}$$

$$C = \frac{37}{56}$$

Corrigé de l'exercice 3

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

$$A = \frac{\frac{6}{7} - 3}{\frac{-7}{4} - 1}$$

$$A = \frac{\frac{6}{7} - \frac{3 \times 7}{1 \times 7}}{\frac{-7}{4} - \frac{1 \times 4}{1 \times 4}}$$

$$A = \frac{\frac{6}{7} - \frac{21}{7}}{\frac{-7}{4} - \frac{4}{4}}$$

$$A = \frac{-15}{7} \div \frac{-11}{4}$$

$$A = \frac{-15}{7} \times \frac{-4}{11}$$

$$A = \frac{-15}{-7 \times \cancel{1}} \times \frac{4 \times \cancel{1}}{11}$$

$$A = \frac{60}{77}$$

$$B = -12 + \frac{-6}{5} \times \frac{3}{14}$$

$$B = -12 + \frac{-3 \times \cancel{2}}{5} \times \frac{3}{7 \times \cancel{2}}$$

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

$$B = \frac{-12 \times 35}{1 \times 35} + \frac{-9}{35}$$

$$B = \frac{-420}{35} + \frac{-9}{35}$$

$$B = \frac{-429}{35}$$

$$C = \frac{-2}{5} \times \left(\frac{9}{8} + \frac{8}{7} \right)$$

$$C = \frac{-2}{5} \times \left(\frac{9 \times 7}{8 \times 7} + \frac{8 \times 8}{7 \times 8} \right)$$

$$C = \frac{-2}{5} \times \left(\frac{63}{56} + \frac{64}{56} \right)$$

$$C = \frac{-2}{5} \times \frac{127}{56}$$

$$C = \frac{-1 \times \cancel{2}}{5} \times \frac{127}{28 \times \cancel{2}}$$

$$C = \frac{-127}{140}$$

Corrigé de l'exercice 4

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

$$A = \frac{-2}{7} \times \left(\frac{1}{6} - \frac{-8}{7} \right)$$

$$A = \frac{-2}{7} \times \left(\frac{1 \times 7}{6 \times 7} - \frac{-8 \times 6}{7 \times 6} \right)$$

$$A = \frac{-2}{7} \times \left(\frac{7}{42} - \frac{-48}{42} \right)$$

$$A = \frac{-2}{7} \times \frac{55}{42}$$

$$A = \frac{-1 \times \cancel{2}}{7} \times \frac{55}{21 \times \cancel{2}}$$

$$A = \frac{-55}{147}$$

$$B = -4 - \frac{-12}{35} \times 1$$

$$B = -4 - \frac{-12}{35}$$

$$B = \frac{-4 \times 35}{1 \times 35} - \frac{-12}{35}$$

$$B = \frac{-140}{35} - \frac{-12}{35}$$

$$B = \frac{-128}{35}$$

$$C = \frac{\frac{3}{5} + 1}{\frac{-3}{2} - 7}$$

$$C = \frac{\frac{3}{5} + \frac{1 \times 5}{1 \times 5}}{\frac{-3}{2} - \frac{7 \times 2}{1 \times 2}}$$

$$C = \frac{\frac{3}{5} + \frac{5}{5}}{\frac{-3}{2} - \frac{14}{2}}$$

$$C = \frac{8}{5} \div \frac{-17}{2}$$

$$C = \frac{8}{5} \times \frac{-2}{17}$$

$$C = \frac{8}{-5 \times \cancel{1}} \times \frac{2 \times \cancel{1}}{17}$$

$$C = \frac{-16}{85}$$

Corrigé de l'exercice 5

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

$$A = -54 - \frac{-9}{4} \times \frac{-1}{3}$$

$$A = -54 - \frac{-3 \times \cancel{3}}{-4 \times \cancel{1}} \times \frac{1 \times \cancel{1}}{1 \times \cancel{3}}$$

$$A = -54 - \frac{3}{4}$$

$$A = \frac{-54 \times 4}{1 \times 4} - \frac{3}{4}$$

$$A = \frac{-216}{4} - \frac{3}{4}$$

$$A = \frac{-219}{4}$$

$$B = \frac{-5}{4} + 8$$

$$B = \frac{-1}{4} - 8$$

$$B = \frac{-5}{4} + \frac{8 \times 4}{1 \times 4}$$

$$B = \frac{-5}{4} + \frac{32}{4}$$

$$B = \frac{27}{4} \div \frac{-33}{4}$$

$$B = \frac{27}{4} \times \frac{-4}{33}$$

$$B = \frac{9 \times \cancel{3}}{-1 \times \cancel{4}} \times \frac{1 \times \cancel{1}}{11 \times \cancel{3}}$$

$$B = \frac{-9}{11}$$

$$C = \frac{2}{5} \div \left(\frac{13}{2} + \frac{-12}{5} \right)$$

$$C = \frac{2}{5} \div \left(\frac{13 \times 5}{2 \times 5} + \frac{-12 \times 2}{5 \times 2} \right)$$

$$C = \frac{2}{5} \div \left(\frac{65}{10} + \frac{-24}{10} \right)$$

$$C = \frac{2}{5} \div \frac{41}{10}$$

$$C = \frac{2}{5} \times \frac{10}{41}$$

$$C = \frac{2}{1 \times \cancel{5}} \times \frac{2 \times \cancel{5}}{41}$$

$$C = \frac{4}{41}$$

Corrigé de l'exercice 6

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

$$A = \frac{52}{3} - \frac{13}{12} \times \frac{7}{13}$$

$$A = \frac{52}{3} - \frac{1 \times \cancel{13}}{12} \times \frac{7}{1 \times \cancel{13}}$$

$$A = \frac{52}{3} - \frac{7}{12}$$

$$A = \frac{52 \times 4}{3 \times 4} - \frac{7}{12}$$

$$A = \frac{208}{12} - \frac{7}{12}$$

$$A = \frac{201}{12}$$

$$A = \frac{67}{4}$$

$$B = \frac{-4}{5} + 4$$

$$B = \frac{2}{7} - 6$$

$$B = \frac{-4}{5} + \frac{4 \times 5}{1 \times 5}$$

$$B = \frac{-4}{5} + \frac{20}{5}$$

$$B = \frac{16}{5} \div \frac{-40}{7}$$

$$B = \frac{16}{5} \times \frac{-7}{40}$$

$$B = \frac{2 \times \cancel{8}}{-5 \times \cancel{1}} \times \frac{7 \times \cancel{1}}{5 \times \cancel{8}}$$

$$B = \frac{-14}{25}$$

$$C = \frac{-7}{5} \times \left(\frac{4}{13} + \frac{13}{10} \right)$$

$$C = \frac{-7}{5} \times \left(\frac{4 \times 10}{13 \times 10} + \frac{13 \times 13}{10 \times 13} \right)$$

$$C = \frac{-7}{5} \times \left(\frac{40}{130} + \frac{169}{130} \right)$$

$$C = \frac{-7}{5} \times \frac{209}{130}$$

$$C = \frac{-1463}{650}$$