Corrigé de l'exercice 1

Effectuer les calculs suivants et donner le résultat sous la forme d'une fraction simplifiée :

$A = \dfrac{-1}{18} \div \left(\dfrac{-1}{5} + \dfrac{2}{5}\right)$

$A = \dfrac{-1}{18} \div \dfrac{1}{5}$

$A = \dfrac{-1}{18} \times 5$

$$\boxed{A = \dfrac{-5}{18}}$$

$B = \dfrac{-7}{22} + \dfrac{15}{32} \div \dfrac{-3}{16}$

$B = \dfrac{-7}{22} + \dfrac{15}{32} \times \dfrac{-16}{3}$

$B = \dfrac{-7}{22} + \dfrac{5 \times \cancel{3}}{2 \times \cancel{16}} \times \dfrac{-1 \times \cancel{16}}{1 \times \cancel{3}}$

$B = \dfrac{-7}{22} + \dfrac{-5}{2}$

$B = \dfrac{-7}{22} + \dfrac{-5_{\times 11}}{2_{\times 11}}$

$B = \dfrac{-62}{22}$

$B = \dfrac{-31_{\times 2}}{11_{\times 2}}$

$$\boxed{B = \dfrac{-31}{11}}$$

$C = \dfrac{-11}{2} \times \dfrac{6}{11} \div \dfrac{15}{31}$

$C = \dfrac{-1 \times \cancel{11}}{1 \times \cancel{2}} \times \dfrac{3 \times \cancel{2}}{1 \times \cancel{11}} \div \dfrac{15}{31}$

$C = -3 \div \dfrac{15}{31}$

$C = -3 \times \dfrac{31}{15}$

$C = -1 \times \cancel{3} \times \dfrac{31}{5 \times \cancel{3}}$

$$\boxed{C = \dfrac{-31}{5}}$$

$D = \dfrac{14}{11} + \dfrac{13}{33} - \dfrac{-11}{9}$

$D = \dfrac{14_{\times 3}}{11_{\times 3}} + \dfrac{13}{33} - \dfrac{-11}{9}$

$D = \dfrac{55}{33} - \dfrac{-11}{9}$

$D = \dfrac{5_{\times 11}}{3_{\times 11}} - \dfrac{-11}{9}$

$D = \dfrac{5}{3} - \dfrac{-11}{9}$

$D = \dfrac{5_{\times 3}}{3_{\times 3}} - \dfrac{-11}{9}$

$$\boxed{D = \dfrac{26}{9}}$$

$E = \dfrac{-9}{20} \div \left(\dfrac{-10}{7} - \dfrac{-3}{7}\right)$

$E = \dfrac{-9}{20} \div \dfrac{-7}{7}$

$E = \dfrac{-9}{20} \div \dfrac{-1_{\times 7}}{1_{\times 7}}$

$E = \dfrac{-9}{20} \div -1$

$E = \dfrac{-9}{20} \times -1$

$$\boxed{E = \dfrac{9}{20}}$$

$F = \dfrac{-9}{13} + \dfrac{7}{25} \div \dfrac{-13}{25}$

$F = \dfrac{-9}{13} + \dfrac{7}{25} \times \dfrac{-25}{13}$

$F = \dfrac{-9}{13} + \dfrac{7}{1 \times \cancel{25}} \times \dfrac{-1 \times \cancel{25}}{13}$

$F = \dfrac{-9}{13} + \dfrac{-7}{13}$

$$\boxed{F = \dfrac{-16}{13}}$$

Corrigé de l'exercice 2

Effectuer les calculs suivants et donner le résultat sous la forme d'une fraction simplifiée :

$A = \dfrac{-7}{4} + \dfrac{-6}{5} \times \dfrac{3}{8}$

$A = \dfrac{-7}{4} + \dfrac{-3 \times \cancel{2}}{5} \times \dfrac{3}{4 \times \cancel{2}}$

$A = \dfrac{-7}{4} + \dfrac{-9}{20}$

$A = \dfrac{-7_{\times 5}}{4_{\times 5}} + \dfrac{-9}{20}$

$A = \dfrac{-44}{20}$

$A = \dfrac{-11_{\times 4}}{5_{\times 4}}$

$$\boxed{A = \dfrac{-11}{5}}$$

$B = \dfrac{14}{11} + \dfrac{1}{9} \div \dfrac{11}{18}$

$B = \dfrac{14}{11} + \dfrac{1}{9} \times \dfrac{18}{11}$

$B = \dfrac{14}{11} + \dfrac{1}{1 \times \cancel{9}} \times \dfrac{2 \times \cancel{9}}{11}$

$B = \dfrac{14}{11} + \dfrac{2}{11}$

$$\boxed{B = \dfrac{16}{11}}$$

$C = \dfrac{-15}{4} \times \left(\dfrac{7}{2} - \dfrac{-5}{6}\right)$

$C = \dfrac{-15}{4} \times \left(\dfrac{7_{\times 3}}{2_{\times 3}} - \dfrac{-5}{6}\right)$

$C = \dfrac{-15}{4} \times \dfrac{26}{6}$

$C = \dfrac{-15}{4} \times \dfrac{13_{\times 2}}{3_{\times 2}}$

$C = \dfrac{-15}{4} \times \dfrac{13}{3}$

$C = \dfrac{-5 \times \cancel{3}}{4} \times \dfrac{13}{1 \times \cancel{3}}$

$$\boxed{C = \dfrac{-65}{4}}$$

$D = \dfrac{-6}{5} \times \dfrac{15}{8} \div \dfrac{3}{8}$

$D = \dfrac{-3 \times \cancel{2}}{1 \times \cancel{5}} \times \dfrac{3 \times \cancel{5}}{4 \times \cancel{2}} \div \dfrac{3}{8}$

$D = \dfrac{-9}{4} \div \dfrac{3}{8}$

$D = \dfrac{-9}{4} \times \dfrac{8}{3}$

$D = \dfrac{-3 \times \cancel{3}}{1 \times \cancel{4}} \times \dfrac{2 \times \cancel{4}}{1 \times \cancel{3}}$

$\boxed{D = -6}$

$E = \dfrac{3}{2} \div \dfrac{3}{37} + \dfrac{9}{26}$

$E = \dfrac{3}{2} \times \dfrac{37}{3} + \dfrac{9}{26}$

$E = \dfrac{1 \times \cancel{3}}{2} \times \dfrac{37}{1 \times \cancel{3}} + \dfrac{9}{26}$

$E = \dfrac{37}{2} + \dfrac{9}{26}$

$E = \dfrac{37_{\times 13}}{2_{\times 13}} + \dfrac{9}{26}$

$E = \dfrac{490}{26}$

$E = \dfrac{245_{\times 2}}{13_{\times 2}}$

$\boxed{E = \dfrac{245}{13}}$

$F = \dfrac{11}{2} + \dfrac{1}{36} \div \dfrac{5}{18}$

$F = \dfrac{11}{2} + \dfrac{1}{36} \times \dfrac{18}{5}$

$F = \dfrac{11}{2} + \dfrac{1}{2 \times \cancel{18}} \times \dfrac{1 \times \cancel{18}}{5}$

$F = \dfrac{11}{2} + \dfrac{1}{10}$

$F = \dfrac{11_{\times 5}}{2_{\times 5}} + \dfrac{1}{10}$

$F = \dfrac{56}{10}$

$F = \dfrac{28_{\times 2}}{5_{\times 2}}$

$\boxed{F = \dfrac{28}{5}}$

Corrigé de l'exercice 3

Effectuer les calculs suivants et donner le résultat sous la forme d'une fraction simplifiée :

$A = \dfrac{-3}{5} - \dfrac{-9}{13} \times \dfrac{-13}{9}$

$A = \dfrac{-3}{5} - \dfrac{-1 \times \cancel{9}}{1 \times \cancel{13}} \times \dfrac{-1 \times \cancel{13}}{1 \times \cancel{9}}$

$A = \dfrac{-3}{5} - 1$

$A = \dfrac{-3}{5} - \dfrac{1_{\times 5}}{1_{\times 5}}$

$\boxed{A = \dfrac{-8}{5}}$

$B = \dfrac{11}{2} \times \dfrac{-4}{7} \div \dfrac{11}{15}$

$B = \dfrac{11}{1 \times \cancel{2}} \times \dfrac{-2 \times \cancel{2}}{7} \div \dfrac{11}{15}$

$B = \dfrac{-22}{7} \div \dfrac{11}{15}$

$B = \dfrac{-22}{7} \times \dfrac{15}{11}$

$B = \dfrac{-2 \times \cancel{11}}{7} \times \dfrac{15}{1 \times \cancel{11}}$

$\boxed{B = \dfrac{-30}{7}}$

$C = \dfrac{1}{28} - \dfrac{5}{4} \div \dfrac{-1}{27}$

$C = \dfrac{1}{28} - \dfrac{5}{4} \times -27$

$C = \dfrac{1}{28} - \dfrac{-135}{4}$

$C = \dfrac{1}{28} - \dfrac{-135_{\times 7}}{4_{\times 7}}$

$C = \dfrac{946}{28}$

$C = \dfrac{473_{\times 2}}{14_{\times 2}}$

$\boxed{C = \dfrac{473}{14}}$

$D = \dfrac{13}{2} - \dfrac{-3}{20} \times \dfrac{16}{3}$

$D = \dfrac{13}{2} - \dfrac{-1 \times \cancel{3}}{5 \times \cancel{4}} \times \dfrac{4 \times \cancel{4}}{1 \times \cancel{3}}$

$D = \dfrac{13}{2} - \dfrac{-4}{5}$

$D = \dfrac{13_{\times 5}}{2_{\times 5}} - \dfrac{-4_{\times 2}}{5_{\times 2}}$

$\boxed{D = \dfrac{73}{10}}$

$E = \dfrac{-13}{6} \div \dfrac{-13}{30} \times \dfrac{7}{25}$

$E = \dfrac{-13}{6} \times \dfrac{-30}{13} \times \dfrac{7}{25}$

$E = \dfrac{-1 \times \cancel{13}}{1 \times \cancel{6}} \times \dfrac{-5 \times \cancel{6}}{1 \times \cancel{13}} \times \dfrac{7}{25}$

$E = 5 \times \dfrac{7}{25}$

$E = 1 \times \cancel{5} \times \dfrac{7}{5 \times \cancel{5}}$

$\boxed{E = \dfrac{7}{5}}$

$F = \dfrac{4}{9} \times \dfrac{-9}{40} \div \dfrac{-2}{33}$

$F = \dfrac{1 \times \cancel{4}}{1 \times \cancel{9}} \times \dfrac{-1 \times \cancel{9}}{10 \times \cancel{4}} \div \dfrac{-2}{33}$

$F = \dfrac{-1}{10} \div \dfrac{-2}{33}$

$F = \dfrac{-1}{10} \times \dfrac{-33}{2}$

$\boxed{F = \dfrac{33}{20}}$

Corrigé de l'exercice 4

Effectuer les calculs suivants et donner le résultat sous la forme d'une fraction simplifiée :

$A = \dfrac{15}{26} \div (\dfrac{-3}{26} - \dfrac{-9}{26})$

$A = \dfrac{15}{26} \div \dfrac{6}{26}$

$A = \dfrac{15}{26} \div \dfrac{3_{\times 2}}{13_{\times 2}}$

$A = \dfrac{15}{26} \div \dfrac{3}{13}$

$A = \dfrac{15}{26} \times \dfrac{13}{3}$

$A = \dfrac{5 \times \cancel{3}}{2 \times \cancel{13}} \times \dfrac{1 \times \cancel{13}}{1 \times \cancel{3}}$

$\boxed{A = \dfrac{5}{2}}$

$B = \dfrac{15}{22} \div (\dfrac{1}{28} + \dfrac{9}{28})$

$B = \dfrac{15}{22} \div \dfrac{10}{28}$

$B = \dfrac{15}{22} \div \dfrac{5_{\times 2}}{14_{\times 2}}$

$B = \dfrac{15}{22} \div \dfrac{5}{14}$

$B = \dfrac{15}{22} \times \dfrac{14}{5}$

$B = \dfrac{3 \times \cancel{5}}{11 \times \cancel{2}} \times \dfrac{7 \times \cancel{2}}{1 \times \cancel{5}}$

$\boxed{B = \dfrac{21}{11}}$

$C = \dfrac{3}{10} \div \dfrac{-1}{33} \times \dfrac{-11}{9}$

$C = \dfrac{3}{10} \times -33 \times \dfrac{-11}{9}$

$C = \dfrac{-99}{10} \times \dfrac{-11}{9}$

$C = \dfrac{-11 \times \cancel{9}}{10} \times \dfrac{-11}{1 \times \cancel{9}}$

$\boxed{C = \dfrac{121}{10}}$

$D = \dfrac{16}{35} \div \dfrac{16}{35} - \dfrac{6}{7}$

$D = \dfrac{16}{35} \times \dfrac{35}{16} - \dfrac{6}{7}$

$D = \dfrac{1 \times \cancel{16}}{1 \times \cancel{35}} \times \dfrac{1 \times \cancel{35}}{1 \times \cancel{16}} - \dfrac{6}{7}$

$D = 1 - \dfrac{6}{7}$

$D = \dfrac{1_{\times 7}}{1_{\times 7}} - \dfrac{6}{7}$

$\boxed{D = \dfrac{1}{7}}$

$E = \dfrac{-3}{7} \times (\dfrac{-7}{3} + \dfrac{1}{2})$

$E = \dfrac{-3}{7} \times (\dfrac{-7_{\times 2}}{3_{\times 2}} + \dfrac{1_{\times 3}}{2_{\times 3}})$

$E = \dfrac{-3}{7} \times \dfrac{-11}{6}$

$E = \dfrac{-1 \times \cancel{3}}{7} \times \dfrac{-11}{2 \times \cancel{3}}$

$\boxed{E = \dfrac{11}{14}}$

$F = \dfrac{-13}{3} + \dfrac{2}{3} \div \dfrac{10}{31}$

$F = \dfrac{-13}{3} + \dfrac{2}{3} \times \dfrac{31}{10}$

$F = \dfrac{-13}{3} + \dfrac{1 \times \cancel{2}}{3} \times \dfrac{31}{5 \times \cancel{2}}$

$F = \dfrac{-13}{3} + \dfrac{31}{15}$

$F = \dfrac{-13_{\times 5}}{3_{\times 5}} + \dfrac{31}{15}$

$\boxed{F = \dfrac{-34}{15}}$

Corrigé de l'exercice 5

Effectuer les calculs suivants et donner le résultat sous la forme d'une fraction simplifiée :

$A = \dfrac{-10}{3} \times (\dfrac{-4}{5} - \dfrac{-7}{20})$

$A = \dfrac{-10}{3} \times (\dfrac{-4_{\times 4}}{5_{\times 4}} - \dfrac{-7}{20})$

$A = \dfrac{-10}{3} \times \dfrac{-9}{20}$

$A = \dfrac{-1 \times \cancel{10}}{1 \times \cancel{3}} \times \dfrac{-3 \times \cancel{3}}{2 \times \cancel{10}}$

$\boxed{A = \dfrac{3}{2}}$

$B = \dfrac{-4}{17} - (\dfrac{13}{17} + \dfrac{4}{17})$

$B = \dfrac{-4}{17} - \dfrac{17}{17}$

$B = \dfrac{-4}{17} - \dfrac{1_{\times 17}}{1_{\times 17}}$

$B = \dfrac{-4}{17} - 1$

$B = \dfrac{-4}{17} - \dfrac{1_{\times 17}}{1_{\times 17}}$

$\boxed{B = \dfrac{-21}{17}}$

$C = \dfrac{7}{2} \div (\dfrac{-5}{9} + \dfrac{-1}{6})$

$C = \dfrac{7}{2} \div (\dfrac{-5_{\times 2}}{9_{\times 2}} + \dfrac{-1_{\times 3}}{6_{\times 3}})$

$C = \dfrac{7}{2} \div \dfrac{-13}{18}$

$C = \dfrac{7}{2} \times \dfrac{-18}{13}$

$C = \dfrac{7}{1 \times \cancel{2}} \times \dfrac{-9 \times \cancel{2}}{13}$

$\boxed{C = \dfrac{-63}{13}}$

$D = \dfrac{-5}{12} \div \dfrac{-1}{15} \times \dfrac{8}{15}$

$D = \dfrac{-5}{12} \times -15 \times \dfrac{8}{15}$

$D = \dfrac{-5}{4 \times \cancel{3}} \times -5 \times \cancel{3} \times \dfrac{8}{15}$

$D = \dfrac{25}{4} \times \dfrac{8}{15}$

$D = \dfrac{5 \times \cancel{5}}{1 \times \cancel{4}} \times \dfrac{2 \times \cancel{4}}{3 \times \cancel{5}}$

$\boxed{D = \dfrac{10}{3}}$

$E = \dfrac{6}{5} \times \dfrac{7}{3} \div \dfrac{-7}{3}$

$E = \dfrac{2 \times \cancel{3}}{5} \times \dfrac{7}{1 \times \cancel{3}} \div \dfrac{-7}{3}$

$E = \dfrac{14}{5} \div \dfrac{-7}{3}$

$E = \dfrac{14}{5} \times \dfrac{-3}{7}$

$E = \dfrac{2 \times \cancel{7}}{5} \times \dfrac{-3}{1 \times \cancel{7}}$

$\boxed{E = \dfrac{-6}{5}}$

$F = \dfrac{-9}{22} \times \dfrac{-11}{6} \div \dfrac{-3}{4}$

$F = \dfrac{-3 \times \cancel{3}}{2 \times \cancel{11}} \times \dfrac{-1 \times \cancel{11}}{2 \times \cancel{3}} \div \dfrac{-3}{4}$

$F = \dfrac{3}{4} \div \dfrac{-3}{4}$

$F = \dfrac{3}{4} \times \dfrac{-4}{3}$

$F = \dfrac{1 \times \cancel{3}}{1 \times \cancel{4}} \times \dfrac{-1 \times \cancel{4}}{1 \times \cancel{3}}$

$\boxed{F = -1}$

Corrigé de l'exercice 6

Effectuer les calculs suivants et donner le résultat sous la forme d'une fraction simplifiée :

$A = \dfrac{-13}{7} - \left(\dfrac{-3}{28} + \dfrac{3}{4}\right)$

$A = \dfrac{-13}{7} - \left(\dfrac{-3}{28} + \dfrac{3_{\times 7}}{4_{\times 7}}\right)$

$A = \dfrac{-13}{7} - \dfrac{18}{28}$

$A = \dfrac{-13}{7} - \dfrac{9_{\times 2}}{14_{\times 2}}$

$A = \dfrac{-13}{7} - \dfrac{9}{14}$

$A = \dfrac{-13_{\times 2}}{7_{\times 2}} - \dfrac{9}{14}$

$A = \dfrac{-35}{14}$

$A = \dfrac{-5_{\times 7}}{2_{\times 7}}$

$\boxed{A = \dfrac{-5}{2}}$

$B = \dfrac{1}{40} - \left(\dfrac{-1}{10} + \dfrac{-7}{4}\right)$

$B = \dfrac{1}{40} - \left(\dfrac{-1_{\times 2}}{10_{\times 2}} + \dfrac{-7_{\times 5}}{4_{\times 5}}\right)$

$B = \dfrac{1}{40} - \dfrac{-37}{20}$

$B = \dfrac{1}{40} - \dfrac{-37_{\times 2}}{20_{\times 2}}$

$B = \dfrac{75}{40}$

$B = \dfrac{15_{\times 5}}{8_{\times 5}}$

$\boxed{B = \dfrac{15}{8}}$

$C = \dfrac{-7}{8} + \dfrac{-10}{3} \div \dfrac{8}{27}$

$C = \dfrac{-7}{8} + \dfrac{-10}{3} \times \dfrac{27}{8}$

$C = \dfrac{-7}{8} + \dfrac{-5 \times \cancel{2}}{1 \times \cancel{3}} \times \dfrac{9 \times \cancel{3}}{4 \times \cancel{2}}$

$C = \dfrac{-7}{8} + \dfrac{-45}{4}$

$C = \dfrac{-7}{8} + \dfrac{-45_{\times 2}}{4_{\times 2}}$

$\boxed{C = \dfrac{-97}{8}}$

$D = \dfrac{-8}{15} + \dfrac{4}{11} \times \dfrac{11}{3}$

$D = \dfrac{-8}{15} + \dfrac{4}{1 \times \cancel{11}} \times \dfrac{1 \times \cancel{11}}{3}$

$D = \dfrac{-8}{15} + \dfrac{4}{3}$

$D = \dfrac{-8}{15} + \dfrac{4_{\times 5}}{3_{\times 5}}$

$D = \dfrac{12}{15}$

$D = \dfrac{4_{\times 3}}{5_{\times 3}}$

$\boxed{D = \dfrac{4}{5}}$

$E = \dfrac{9}{28} + \dfrac{-9}{7} \div \dfrac{-4}{21}$

$E = \dfrac{9}{28} + \dfrac{-9}{7} \times \dfrac{-21}{4}$

$E = \dfrac{9}{28} + \dfrac{-9}{1 \times \cancel{7}} \times \dfrac{-3 \times \cancel{7}}{4}$

$E = \dfrac{9}{28} + \dfrac{27}{4}$

$E = \dfrac{9}{28} + \dfrac{27_{\times 7}}{4_{\times 7}}$

$E = \dfrac{198}{28}$

$E = \dfrac{99_{\times 2}}{14_{\times 2}}$

$\boxed{E = \dfrac{99}{14}}$

$F = \dfrac{-9}{4} + \dfrac{13}{20} - \dfrac{-13}{4}$

$F = \dfrac{-9_{\times 5}}{4_{\times 5}} + \dfrac{13}{20} - \dfrac{-13}{4}$

$F = \dfrac{-32}{20} - \dfrac{-13}{4}$

$F = \dfrac{-8_{\times 4}}{5_{\times 4}} - \dfrac{-13}{4}$

$F = \dfrac{-8}{5} - \dfrac{-13}{4}$

$F = \dfrac{-8_{\times 4}}{5_{\times 4}} - \dfrac{-13_{\times 5}}{4_{\times 5}}$

$\boxed{F = \dfrac{33}{20}}$