

Corrigé de l'exercice 1

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

$$A = \frac{7}{20} - \frac{13}{5}$$

$$A = \frac{7}{20} - \frac{13 \times 4}{5 \times 4}$$

$$A = \frac{-45}{20}$$

$$A = \frac{-9 \times 5}{4 \times 5}$$

$$A = \frac{-9}{4}$$

$$B = \frac{13}{3} + \frac{2}{9}$$

$$B = \frac{13 \times 3}{3 \times 3} + \frac{2}{9}$$

$$B = \frac{41}{9}$$

$$C = \frac{9}{2} + \frac{16}{9}$$

$$C = \frac{9 \times 9}{2 \times 9} + \frac{16 \times 2}{9 \times 2}$$

$$C = \frac{113}{18}$$

$$D = \frac{2}{5} - \frac{5}{2}$$

$$D = \frac{2 \times 2}{5 \times 2} - \frac{5 \times 5}{2 \times 5}$$

$$D = \frac{-21}{10}$$

$$E = \frac{-5}{2} - \frac{-1}{7}$$

$$E = \frac{-5 \times 7}{2 \times 7} - \frac{-1 \times 2}{7 \times 2}$$

$$E = \frac{-33}{14}$$

$$F = \frac{13}{5} + \frac{-15}{4}$$

$$F = \frac{13 \times 4}{5 \times 4} + \frac{-15 \times 5}{4 \times 5}$$

$$F = \frac{-23}{20}$$

$$G = \frac{7}{10} - \frac{-7}{15}$$

$$G = \frac{7 \times 3}{10 \times 3} - \frac{-7 \times 2}{15 \times 2}$$

$$G = \frac{35}{30}$$

$$G = \frac{7 \times 5}{6 \times 5}$$

$$G = \frac{7}{6}$$

$$H = \frac{-5}{28} + \frac{-5}{21}$$

$$H = \frac{-5 \times 3}{28 \times 3} + \frac{-5 \times 4}{21 \times 4}$$

$$H = \frac{-35}{84}$$

$$H = \frac{-5 \times 7}{12 \times 7}$$

$$H = \frac{-5}{12}$$

Corrigé de l'exercice 2

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

$$A = \frac{1}{3} \times \frac{8}{3}$$

$$A = \frac{8}{9}$$

$$B = \frac{8}{3} \div \frac{3}{2}$$

$$B = \frac{8}{3} \times \frac{2}{3}$$

$$B = \frac{16}{9}$$

$$C = \frac{8}{3} \div \frac{-1}{-7}$$

$$C = \frac{8}{3} \times 7$$

$$C = \frac{56}{3}$$

$$D = \frac{-7}{-3} \times \frac{-8}{5}$$

$$D = \frac{-56}{15}$$

$$E = \frac{9}{14} \div \frac{27}{14}$$

$$E = \frac{9}{14} \times \frac{14}{27}$$

$$E = \frac{1 \times \cancel{9}}{1 \times \cancel{14}} \times \frac{1 \times \cancel{14}}{3 \times \cancel{9}}$$

$$E = \frac{1}{3}$$

$$F = \frac{21}{8} \times \frac{16}{21}$$

$$F = \frac{1 \times \cancel{21}}{1 \times \cancel{8}} \times \frac{2 \times \cancel{8}}{1 \times \cancel{21}}$$

$$F = 2$$

$$G = \frac{36}{16} \div \frac{9}{-36}$$

$$G = \frac{36}{16} \times \frac{-36}{9}$$

$$G = \frac{9 \times \cancel{4}}{4 \times \cancel{4}} \times \frac{-4 \times \cancel{9}}{1 \times \cancel{9}}$$

$$G = \frac{9}{4} \times -4$$

$$G = \frac{9}{1 \times \cancel{4}} \times -1 \times \cancel{4}$$

$$G = -9$$

$$H = \frac{-42}{-9} \times \frac{12}{-14}$$

$$H = \frac{-14 \times \cancel{3}}{-3 \times \cancel{3}} \times \frac{6 \times \cancel{2}}{-7 \times \cancel{2}}$$

$$H = \frac{14}{3} \times \frac{-6}{7}$$

$$H = \frac{2 \times \cancel{7}}{1 \times \cancel{3}} \times \frac{-2 \times \cancel{3}}{1 \times \cancel{7}}$$

$$H = -4$$

Corrigé de l'exercice 3

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

$$A = \frac{-16}{3} \div \left(\frac{2}{3} - \frac{-4}{15} \right)$$

$$A = \frac{-16}{3} \div \left(\frac{2 \times 5}{3 \times 5} - \frac{-4}{15} \right)$$

$$A = \frac{-16}{3} \div \frac{14}{15}$$

$$A = \frac{-16}{3} \times \frac{15}{14}$$

$$A = \frac{-8 \times \cancel{2}}{1 \times \cancel{3}} \times \frac{5 \times \cancel{3}}{7 \times \cancel{2}}$$

$$A = \frac{-40}{7}$$

$$B = \frac{-6}{19} \div \frac{1}{12} \times \frac{-1}{4}$$

$$B = \frac{-6}{19} \times 12 \times \frac{-1}{4}$$

$$B = \frac{-72}{19} \times \frac{-1}{4}$$

$$B = \frac{-18 \times \cancel{4}}{19} \times \frac{-1}{1 \times \cancel{4}}$$

$$B = \frac{18}{19}$$

$$C = \frac{-7}{9} \div \frac{-7}{11} - \frac{-4}{9}$$

$$C = \frac{-7}{9} \times \frac{-11}{7} - \frac{-4}{9}$$

$$C = \frac{-1 \times \cancel{7}}{9} \times \frac{-11}{1 \times \cancel{7}} - \frac{-4}{9}$$

$$C = \frac{11}{9} - \frac{-4}{9}$$

$$C = \frac{15}{9}$$

$$C = \frac{5 \times 3}{3 \times 3}$$

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

$$D = \frac{5}{24} + \frac{-5}{6} - \frac{-15}{16}$$

$$D = \frac{5}{24} + \frac{-5 \times 4}{6 \times 4} - \frac{-15}{16}$$

$$D = \frac{-15}{24} - \frac{-15}{16}$$

$$D = \frac{-5 \times 3}{8 \times 3} - \frac{-15}{16}$$

$$D = \frac{-5}{8} - \frac{-15}{16}$$

$$D = \frac{-5 \times 2}{8 \times 2} - \frac{-15}{16}$$

$$D = \frac{5}{16}$$

$$E = \frac{-8}{11} \div \frac{1}{33} \times \frac{9}{40}$$

$$E = \frac{-8}{11} \times 33 \times \frac{9}{40}$$

$$E = \frac{-8}{1 \times \cancel{11}} \times 3 \times \cancel{11} \times \frac{9}{40}$$

$$E = -24 \times \frac{9}{40}$$

$$E = -3 \times \cancel{8} \times \frac{9}{5 \times \cancel{8}}$$

$$E = \frac{-27}{5}$$

$$F = \frac{8}{7} \div \left(\frac{-1}{7} + \frac{6}{7} \right)$$

$$F = \frac{8}{7} \div \frac{5}{7}$$

$$F = \frac{8}{7} \times \frac{7}{5}$$

$$F = \frac{8}{1 \times \cancel{7}} \times \frac{1 \times \cancel{7}}{5}$$

$$F = \frac{8}{5}$$

Corrigé de l'exercice 4

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

$$A = \frac{5}{4} + 3$$

$$A = \frac{5}{4} + \frac{3 \times 4}{1 \times 4}$$

$$A = \frac{17}{4}$$

$$B = \frac{11}{16} - \frac{11}{2}$$

$$B = \frac{11}{16} - \frac{11 \times 8}{2 \times 8}$$

$$B = \frac{-77}{16}$$

$$C = \frac{2}{7} + \frac{3}{2}$$

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

$$C = \frac{25}{14}$$

$$D = \frac{9}{2} - \frac{9}{5}$$

$$D = \frac{9 \times 5}{2 \times 5} - \frac{9 \times 2}{5 \times 2}$$

$$D = \frac{27}{10}$$

$$E = \frac{-2}{3} + \frac{-1}{2}$$

$$E = \frac{-2 \times 2}{3 \times 2} + \frac{-1 \times 3}{2 \times 3}$$

$$E = \frac{-7}{6}$$

$$F = \frac{-7}{2} - \frac{-2}{3}$$

$$F = \frac{-7 \times 3}{2 \times 3} - \frac{-2 \times 2}{3 \times 2}$$

$$F = \frac{-17}{6}$$

$$G = \frac{-5}{4} + \frac{11}{6}$$

$$G = \frac{-5 \times 3}{4 \times 3} + \frac{11 \times 2}{6 \times 2}$$

$$G = \frac{7}{12}$$

$$H = \frac{14}{15} - \frac{-5}{12}$$

$$H = \frac{14 \times 4}{15 \times 4} - \frac{-5 \times 5}{12 \times 5}$$

$$H = \frac{81}{60}$$

$$H = \frac{27 \times 3}{20 \times 3}$$

$$H = \frac{27}{20}$$

Corrigé de l'exercice 5

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

$$A = \frac{3}{10} \div \frac{2}{3}$$

$$A = \frac{3}{10} \times \frac{3}{2}$$

$$A = \frac{9}{20}$$

$$B = \frac{3}{10} \times \frac{9}{2}$$

$$B = \frac{27}{20}$$

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

$$C = \frac{7}{12}$$

$$D = \frac{1}{5} \div \frac{-4}{-3}$$

$$D = \frac{1}{5} \times \frac{3}{4}$$

$$D = \frac{3}{20}$$

$$E = \frac{21}{16} \times \frac{64}{21}$$

$$E = \frac{1 \times \cancel{21}}{1 \times \cancel{16}} \times \frac{4 \times \cancel{16}}{1 \times \cancel{21}}$$

$$E = 4$$

$$F = \frac{49}{36} \div \frac{49}{24}$$

$$F = \frac{49}{36} \times \frac{24}{49}$$

$$F = \frac{1 \times \cancel{49}}{3 \times \cancel{12}} \times \frac{2 \times \cancel{12}}{1 \times \cancel{49}}$$

$$F = \frac{2}{3}$$

$$G = \frac{8}{24} \div \frac{-20}{-15}$$

$$G = \frac{8}{24} \times \frac{15}{20}$$

$$G = \frac{1 \times \cancel{8}}{3 \times \cancel{8}} \times \frac{3 \times \cancel{3}}{4 \times \cancel{3}}$$

$$G = \frac{1}{3} \times \frac{3}{4}$$

$$G = \frac{1}{1 \times \cancel{3}} \times \frac{1 \times \cancel{3}}{4}$$

$$G = \frac{1}{4}$$

$$H = \frac{4}{45} \times \frac{-45}{-6}$$

$$H = \frac{4}{45} \times \frac{-15 \times \cancel{3}}{-2 \times \cancel{3}}$$

$$H = \frac{4}{45} \times \frac{15}{2}$$

$$H = \frac{2 \times \cancel{2}}{3 \times \cancel{15}} \times \frac{1 \times \cancel{15}}{1 \times \cancel{2}}$$

$$H = \frac{2}{3}$$

Corrigé de l'exercice 6

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

$$A = \frac{7}{4} \times \frac{14}{3} - \frac{5}{21}$$

$$A = \frac{7}{2 \times \cancel{2}} \times \frac{7 \times \cancel{2}}{3} - \frac{5}{21}$$

$$A = \frac{49}{6} - \frac{5}{21}$$

$$A = \frac{49 \times 7}{6 \times 7} - \frac{5 \times 2}{21 \times 2}$$

$$A = \frac{333}{42}$$

$$A = \frac{111 \times 3}{14 \times 3}$$

$$A = \frac{111}{14}$$

$$B = \frac{-13}{28} \times \frac{-12}{13} \div \frac{2}{7}$$

$$B = \frac{-1 \times \cancel{13}}{7 \times \cancel{4}} \times \frac{-3 \times \cancel{4}}{1 \times \cancel{13}} \div \frac{2}{7}$$

$$B = \frac{3}{7} \div \frac{2}{7}$$

$$B = \frac{3}{7} \times \frac{7}{2}$$

$$B = \frac{3}{1 \times \cancel{7}} \times \frac{1 \times \cancel{7}}{2}$$

$$B = \frac{3}{2}$$

$$C = \frac{14}{17} + \frac{1}{8} \times \frac{-16}{17}$$

$$C = \frac{14}{17} + \frac{1}{1 \times \cancel{8}} \times \frac{-2 \times \cancel{8}}{17}$$

$$C = \frac{14}{17} + \frac{-2}{17}$$

$$C = \frac{12}{17}$$

$$D = \frac{2}{19} \div \frac{-2}{7} \times \frac{2}{7}$$

$$D = \frac{2}{19} \times \frac{-7}{2} \times \frac{2}{7}$$

$$D = \frac{1 \times \cancel{2}}{19} \times \frac{-7}{1 \times \cancel{2}} \times \frac{2}{7}$$

$$D = \frac{-7}{19} \times \frac{2}{7}$$

$$D = \frac{-1 \times \cancel{7}}{19} \times \frac{2}{1 \times \cancel{7}}$$

$$D = \frac{-2}{19}$$

$$E = \frac{-15}{13} \div \frac{-5}{9} \times \frac{5}{27}$$

$$E = \frac{-15}{13} \times \frac{-9}{5} \times \frac{5}{27}$$

$$E = \frac{-3 \times \cancel{5}}{13} \times \frac{-9}{1 \times \cancel{5}} \times \frac{5}{27}$$

$$E = \frac{27}{13} \times \frac{5}{27}$$

$$E = \frac{1 \times \cancel{27}}{13} \times \frac{5}{1 \times \cancel{27}}$$

$$E = \frac{5}{13}$$

$$F = \frac{7}{3} + \frac{-8}{3} \div \frac{-5}{17}$$

$$F = \frac{7}{3} + \frac{-8}{3} \times \frac{-17}{5}$$

$$F = \frac{7}{3} + \frac{136}{15}$$

$$F = \frac{7 \times 5}{3 \times 5} + \frac{136}{15}$$

$$F = \frac{171}{15}$$

$$F = \frac{57 \times 3}{5 \times 3}$$

$$F = \frac{57}{5}$$