

CORRECTION : EXERCICES SUPPLEMENTAIRES SUR LE CALCUL FRACTIONNAIRE

Corrigé de l'exercice 1

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

$$A = \frac{7}{9} + 9$$

$$A = \frac{7}{9} + \frac{9 \times 9}{1 \times 9}$$

$$A = \frac{88}{9}$$

$$B = \frac{1}{5} - \frac{14}{15}$$

$$B = \frac{1 \times 3}{5 \times 3} - \frac{14}{15}$$

$$B = \frac{-11}{15}$$

$$C = \frac{9}{2} + \frac{6}{7}$$

$$C = \frac{9 \times 7}{2 \times 7} + \frac{6 \times 2}{7 \times 2}$$

$$C = \frac{75}{14}$$

$$D = \frac{1}{3} - \frac{6}{5}$$

$$D = \frac{1 \times 5}{3 \times 5} - \frac{6 \times 3}{5 \times 3}$$

$$D = \frac{-13}{15}$$

$$E = \frac{-1}{2} + \frac{-4}{7}$$

$$E = \frac{-1 \times 7}{2 \times 7} + \frac{-4 \times 2}{7 \times 2}$$

$$E = \frac{-15}{14}$$

$$F = \frac{-11}{2} - \frac{9}{5}$$

$$F = \frac{-11 \times 5}{2 \times 5} - \frac{9 \times 2}{5 \times 2}$$

$$F = \frac{-73}{10}$$

$$G = \frac{4}{9} + \frac{-1}{6}$$

$$G = \frac{4 \times 2}{9 \times 2} + \frac{-1 \times 3}{6 \times 3}$$

$$G = \frac{5}{18}$$

$$H = \frac{-11}{20} - \frac{8}{15}$$

$$H = \frac{-11 \times 3}{20 \times 3} - \frac{8 \times 4}{15 \times 4}$$

$$H = \frac{-65}{60}$$

$$H = \frac{-13 \times 5}{12 \times 5}$$

$$H = \frac{-13}{12}$$

Corrigé de l'exercice 2

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

$$A = \frac{3}{2} \div \frac{2}{5}$$

$$A = \frac{3}{2} \times \frac{5}{2}$$

$$A = \frac{15}{4}$$

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

$$B = \frac{63}{8}$$

$$C = \frac{8}{9} \div \frac{-1}{5}$$

$$C = \frac{8}{9} \times -5$$

$$C = \frac{-40}{9}$$

$$D = \frac{1}{-4} \times \frac{-1}{-4}$$

$$D = \frac{-1}{16}$$

$$E = \frac{15}{14} \times \frac{8}{15}$$

$$E = \frac{1 \times \cancel{15}}{7 \times \cancel{2}} \times \frac{4 \times \cancel{2}}{1 \times \cancel{15}}$$

$$E = \frac{4}{7}$$

$$F = \frac{49}{32} \div \frac{49}{36}$$

$$F = \frac{49}{32} \times \frac{36}{49}$$

$$F = \frac{1 \times \cancel{49}}{8 \times \cancel{4}} \times \frac{9 \times \cancel{4}}{1 \times \cancel{49}}$$

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

$$G = \frac{30}{-12} \times \frac{-21}{20}$$

$$G = \frac{5 \times \cancel{6}}{-2 \times \cancel{6}} \times \frac{-21}{20}$$

$$G = \frac{-5}{2} \times \frac{-21}{20}$$

$$G = \frac{-1 \times \cancel{5}}{2} \times \frac{-21}{4 \times \cancel{5}}$$

$$G = \frac{21}{8}$$

$$H = \frac{100}{63} \div \frac{50}{-54}$$

$$H = \frac{100}{63} \times \frac{-54}{50}$$

$$H = \frac{100}{63} \times \frac{-27 \times \cancel{2}}{25 \times \cancel{2}}$$

$$H = \frac{100}{63} \times \frac{-27}{25}$$

$$H = \frac{4 \times \cancel{25}}{7 \times \cancel{9}} \times \frac{-3 \times \cancel{9}}{1 \times \cancel{25}}$$

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

Corrigé de l'exercice 3

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

$$A = \frac{9}{35} \div \frac{-6}{35} + \frac{-7}{3}$$

$$A = \frac{9}{35} \times \frac{-35}{6} + \frac{-7}{3}$$

$$A = \frac{3 \times \cancel{35}}{1 \times \cancel{35}} \times \frac{-1 \times \cancel{35}}{2 \times \cancel{3}} + \frac{-7}{3}$$

$$A = \frac{-3}{2} + \frac{-7}{3}$$

$$A = \frac{-3 \times 3}{2 \times 3} + \frac{-7 \times 2}{3 \times 2}$$

$$A = \frac{-23}{6}$$

$$B = \frac{-13}{2} \div \frac{-5}{22} + \frac{13}{3}$$

$$B = \frac{-13}{2} \times \frac{-22}{5} + \frac{13}{3}$$

$$B = \frac{-13}{1 \times 2} \times \frac{-11 \times 2}{5} + \frac{13}{3}$$

$$B = \frac{143}{5} + \frac{13}{3}$$

$$B = \frac{143 \times 3}{5 \times 3} + \frac{13 \times 5}{3 \times 5}$$

$$B = \frac{494}{15}$$

$$C = \frac{9}{2} + \frac{-7}{16} \div \frac{-5}{28}$$

$$C = \frac{9}{2} + \frac{-7}{16} \times \frac{-28}{5}$$

$$C = \frac{9}{2} + \frac{-7}{4 \times 4} \times \frac{-7 \times 4}{5}$$

$$C = \frac{9}{2} + \frac{49}{20}$$

$$C = \frac{9 \times 10}{2 \times 10} + \frac{49}{20}$$

$$C = \frac{139}{20}$$

$$D = \frac{7}{4} \div \frac{3}{28} \times \frac{15}{8}$$

$$D = \frac{7}{4} \times \frac{28}{3} \times \frac{15}{8}$$

$$D = \frac{7}{1 \times 4} \times \frac{7 \times 4}{3} \times \frac{15}{8}$$

$$D = \frac{49}{3} \times \frac{15}{8}$$

$$D = \frac{49}{1 \times 3} \times \frac{5 \times 3}{8}$$

$$D = \frac{245}{8}$$

$$E = \frac{15}{2} - \frac{-7}{2} \div \frac{-5}{34}$$

$$E = \frac{15}{2} - \frac{-7}{2} \times \frac{-34}{5}$$

$$E = \frac{15}{2} - \frac{-7}{1 \times 2} \times \frac{-17 \times 2}{5}$$

$$E = \frac{15}{2} - \frac{119}{5}$$

$$E = \frac{15 \times 5}{2 \times 5} - \frac{119 \times 2}{5 \times 2}$$

$$E = \frac{-163}{10}$$

$$F = \frac{11}{8} \times \frac{15}{2} \div \frac{11}{34}$$

$$F = \frac{165}{16} \div \frac{11}{34}$$

$$F = \frac{165}{16} \times \frac{34}{11}$$

$$F = \frac{15 \times \cancel{11}}{8 \times 2} \times \frac{17 \times \cancel{2}}{1 \times \cancel{11}}$$

$$F = \frac{255}{8}$$

Corrigé de l'exercice 4

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

$$A = \frac{11}{8} + \frac{11}{2}$$

$$A = \frac{11}{8} + \frac{11 \times 4}{2 \times 4}$$

$$A = \frac{55}{8}$$

$$B = \frac{13}{3} - \frac{11}{9}$$

$$B = \frac{13 \times 3}{3 \times 3} - \frac{11}{9}$$

$$B = \frac{28}{9}$$

$$C = \frac{15}{7} + \frac{3}{2}$$

$$C = \frac{15 \times 2}{7 \times 2} + \frac{3 \times 7}{2 \times 7}$$

$$C = \frac{51}{14}$$

$$D = \frac{11}{2} - \frac{9}{7}$$

$$D = \frac{11 \times 7}{2 \times 7} - \frac{9 \times 2}{7 \times 2}$$

$$D = \frac{59}{14}$$

$$E = \frac{-12}{5} + \frac{7}{4}$$

$$E = \frac{-12 \times 4}{5 \times 4} + \frac{7 \times 5}{4 \times 5}$$

$$E = \frac{-13}{20}$$

$$F = \frac{4}{3} - \frac{-6}{5}$$

$$F = \frac{4 \times 5}{3 \times 5} - \frac{-6 \times 3}{5 \times 3}$$

$$F = \frac{38}{15}$$

$$G = \frac{13}{6} + \frac{-11}{21}$$

$$G = \frac{13 \times 7}{6 \times 7} + \frac{-11 \times 2}{21 \times 2}$$

$$G = \frac{69}{42}$$

$$G = \frac{23 \times 3}{14 \times 3}$$

$$G = \frac{23}{14}$$

$$H = \frac{-11}{21} - \frac{5}{6}$$

$$H = \frac{-11 \times 2}{21 \times 2} - \frac{5 \times 7}{6 \times 7}$$

$$H = \frac{-57}{42}$$

$$H = \frac{-19 \times 3}{14 \times 3}$$

$$H = \frac{-19}{14}$$

Corrigé de l'exercice 5

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

$$A = \frac{9}{2} \times \frac{5}{7}$$

$$A = \frac{45}{14}$$

$$B = \frac{1}{2} \div \frac{4}{3}$$

$$B = \frac{1}{2} \times \frac{3}{4}$$

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

$$C = \frac{-9}{-8} \times \frac{-1}{-2}$$

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

$$D = \frac{-10}{3} \div \frac{-3}{8}$$

$$D = \frac{-10}{3} \times \frac{-8}{3}$$

$$D = \frac{80}{9}$$

$$E = \frac{72}{25} \div \frac{32}{15}$$

$$E = \frac{72}{25} \times \frac{15}{32}$$

$$E = \frac{9 \times \cancel{8}}{5 \times \cancel{5}} \times \frac{3 \times \cancel{5}}{4 \times \cancel{8}}$$

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

$$F = \frac{81}{20} \times \frac{8}{27}$$

$$F = \frac{3 \times \cancel{27}}{5 \times \cancel{4}} \times \frac{2 \times \cancel{4}}{1 \times \cancel{27}}$$

$$F = \frac{6}{5}$$

$$G = \frac{-9}{35} \times \frac{-15}{-27}$$

$$G = \frac{-9}{35} \times \frac{-\cancel{5} \times \cancel{3}}{-9 \times \cancel{3}}$$

$$G = \frac{-9}{35} \times \frac{5}{9}$$

$$G = \frac{-1 \times \cancel{9}}{7 \times \cancel{5}} \times \frac{1 \times \cancel{5}}{1 \times \cancel{9}}$$

$$G = \frac{-1}{7}$$

$$H = \frac{40}{63} \div \frac{-4}{-18}$$

$$H = \frac{40}{63} \times \frac{18}{4}$$

$$H = \frac{40}{63} \times \frac{9 \times \cancel{2}}{2 \times \cancel{9}}$$

$$H = \frac{40}{63} \times \frac{9}{2}$$

$$H = \frac{20 \times \cancel{2}}{7 \times \cancel{9}} \times \frac{1 \times \cancel{9}}{1 \times \cancel{2}}$$

$$H = \frac{20}{7}$$

Corrigé de l'exercice 6

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

$$A = \frac{-14}{5} + \frac{-4}{33} \times \frac{-11}{20}$$

$$A = \frac{-14}{5} + \frac{-1 \times \cancel{4}}{3 \times \cancel{11}} \times \frac{-1 \times \cancel{11}}{5 \times \cancel{4}}$$

$$A = \frac{-14}{5} + \frac{1}{15}$$

$$A = \frac{-14 \times 3}{5 \times 3} + \frac{1}{15}$$

$$A = \frac{-41}{15}$$

$$B = \frac{-15}{14} + \frac{4}{3} \div \frac{-1}{3}$$

$$B = \frac{-15}{14} + \frac{4}{3} \times -3$$

$$B = \frac{-15}{14} + \frac{4}{1 \times \cancel{3}} \times -1 \times \cancel{3}$$

$$B = \frac{-15}{14} + -4$$

$$B = \frac{-15}{14} + \frac{-4 \times 14}{1 \times 14}$$

$$B = \frac{-71}{14}$$

$$C = \frac{7}{18} - \frac{5}{4} \div \frac{15}{28}$$

$$C = \frac{7}{18} - \frac{5}{4} \times \frac{28}{15}$$

$$C = \frac{7}{18} - \frac{1 \times \cancel{5}}{1 \times \cancel{4}} \times \frac{7 \times \cancel{4}}{3 \times \cancel{3}}$$

$$C = \frac{7}{18} - \frac{7}{3}$$

$$C = \frac{7}{18} - \frac{7 \times 6}{3 \times 6}$$

$$C = \frac{-35}{18}$$

$$D = \frac{-3}{7} + \frac{-9}{14} \div \frac{9}{16}$$

$$D = \frac{-3}{7} + \frac{-9}{14} \times \frac{16}{9}$$

$$D = \frac{-3}{7} + \frac{-1 \times \cancel{9}}{7 \times \cancel{2}} \times \frac{8 \times \cancel{2}}{1 \times \cancel{9}}$$

$$D = \frac{-3}{7} + \frac{-8}{7}$$

$$D = \frac{-11}{7}$$

$$E = \frac{7}{3} - \frac{5}{2} \div \frac{-1}{19}$$

$$E = \frac{7}{3} - \frac{5}{2} \times -19$$

$$E = \frac{7}{3} - \frac{-95}{2}$$

$$E = \frac{7 \times 2}{3 \times 2} - \frac{-95 \times 3}{2 \times 3}$$

$$E = \frac{299}{6}$$

$$F = \frac{-10}{7} + \frac{-4}{7} - \frac{12}{19}$$

$$F = \frac{-14}{7} - \frac{12}{19}$$

$$F = \frac{-2 \times 7}{1 \times 7} - \frac{12}{19}$$

$$F = -2 - \frac{12}{19}$$

$$F = \frac{-2 \times 19}{1 \times 19} - \frac{12}{19}$$

$$F = \frac{-50}{19}$$