

Exercice 1

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

$$\begin{array}{l} A = \frac{3}{2} \times \frac{5}{8} \\ B = \frac{7}{4} \div \frac{3}{7} \end{array} \quad \left| \quad \begin{array}{l} C = \frac{-1}{-3} \times \frac{-1}{-4} \\ D = \frac{-7}{2} \div \frac{-2}{-9} \end{array} \quad \left| \quad \begin{array}{l} E = \frac{18}{25} \times \frac{35}{18} \\ F = \frac{32}{35} \div \frac{16}{35} \end{array} \quad \left| \quad \begin{array}{l} G = \frac{-21}{40} \div \frac{-42}{-12} \\ H = \frac{-35}{27} \times \frac{45}{-21} \end{array} \right.$$

Exercice 2

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

$$\begin{array}{l} A = \frac{1}{4} \div \frac{3}{5} \\ B = \frac{7}{2} \times \frac{3}{4} \end{array} \quad \left| \quad \begin{array}{l} C = \frac{4}{3} \div \frac{1}{-2} \\ D = \frac{-1}{-8} \times \frac{-3}{2} \end{array} \quad \left| \quad \begin{array}{l} E = \frac{20}{49} \div \frac{2}{49} \\ F = \frac{12}{35} \times \frac{35}{54} \end{array} \quad \left| \quad \begin{array}{l} G = \frac{63}{-63} \times \frac{9}{14} \\ H = \frac{15}{81} \div \frac{30}{-63} \end{array} \right.$$

Exercice 3

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

$$\begin{array}{l} A = \frac{3}{4} \times \frac{7}{2} \\ B = \frac{7}{2} \div \frac{6}{7} \end{array} \quad \left| \quad \begin{array}{l} C = \frac{5}{4} \div \frac{1}{-7} \\ D = \frac{3}{4} \times \frac{9}{-4} \end{array} \quad \left| \quad \begin{array}{l} E = \frac{15}{56} \times \frac{49}{15} \\ F = \frac{25}{21} \div \frac{5}{14} \end{array} \quad \left| \quad \begin{array}{l} G = \frac{-40}{-21} \times \frac{49}{-40} \\ H = \frac{-15}{28} \div \frac{3}{14} \end{array} \right.$$

Exercice 4

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

$$\begin{array}{l} A = \frac{7}{3} \times \frac{7}{2} \\ B = \frac{2}{3} \div \frac{1}{5} \end{array} \quad \left| \quad \begin{array}{l} C = \frac{-5}{-8} \times \frac{3}{-2} \\ D = \frac{8}{3} \div \frac{-1}{-10} \end{array} \quad \left| \quad \begin{array}{l} E = \frac{32}{27} \div \frac{40}{63} \\ F = \frac{25}{48} \times \frac{24}{35} \end{array} \quad \left| \quad \begin{array}{l} G = \frac{-56}{32} \div \frac{-63}{32} \\ H = \frac{-8}{-35} \times \frac{-70}{-80} \end{array} \right.$$

Exercice 5

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

$$\begin{array}{l} A = \frac{2}{5} \div \frac{1}{7} \\ B = \frac{4}{3} \times \frac{2}{3} \end{array} \quad \left| \quad \begin{array}{l} C = \frac{-5}{2} \div \frac{-3}{-7} \\ D = \frac{-7}{-2} \times \frac{3}{2} \end{array} \quad \left| \quad \begin{array}{l} E = \frac{16}{63} \div \frac{32}{49} \\ F = \frac{40}{49} \times \frac{49}{16} \end{array} \quad \left| \quad \begin{array}{l} G = \frac{-27}{10} \div \frac{-54}{-15} \\ H = \frac{16}{-18} \times \frac{-6}{-12} \end{array} \right.$$

Exercice 6

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

$$\begin{array}{l} A = \frac{9}{8} \times \frac{1}{2} \\ B = \frac{4}{3} \div \frac{3}{5} \end{array} \quad \left| \quad \begin{array}{l} C = \frac{-1}{6} \div \frac{2}{7} \\ D = \frac{-9}{2} \times \frac{9}{-2} \end{array} \quad \left| \quad \begin{array}{l} E = \frac{49}{24} \div \frac{7}{24} \\ F = \frac{49}{25} \times \frac{25}{63} \end{array} \quad \left| \quad \begin{array}{l} G = \frac{16}{-90} \times \frac{-45}{-32} \\ H = \frac{63}{16} \div \frac{63}{20} \end{array} \right.$$

Corrigé de l'exercice 1

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

$$A = \frac{3}{2} \times \frac{5}{8}$$

$$A = \frac{15}{16}$$

$$B = \frac{7}{4} \div \frac{3}{7}$$

$$B = \frac{7}{4} \times \frac{7}{3}$$

$$B = \frac{49}{12}$$

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

$$C = \frac{1}{12}$$

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

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

$$D = \frac{-63}{4}$$

$$E = \frac{18}{25} \times \frac{35}{18}$$

$$E = \frac{1 \times \cancel{18}}{5 \times \cancel{5}} \times \frac{7 \times \cancel{5}}{1 \times \cancel{18}}$$

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

$$F = \frac{32}{35} \div \frac{16}{35}$$

$$F = \frac{32}{35} \times \frac{35}{16}$$

$$F = \frac{2 \times \cancel{16}}{1 \times \cancel{35}} \times \frac{1 \times \cancel{35}}{1 \times \cancel{16}}$$

$$F = 2$$

$$G = \frac{-21}{40} \div \frac{-42}{-12}$$

$$G = \frac{-21}{40} \times \frac{12}{42}$$

$$G = \frac{-21}{40} \times \frac{2 \times \cancel{6}}{7 \times \cancel{6}}$$

$$G = \frac{-21}{40} \times \frac{2}{7}$$

$$G = \frac{-3 \times \cancel{7}}{20 \times \cancel{2}} \times \frac{1 \times \cancel{2}}{1 \times \cancel{7}}$$

$$G = \frac{-3}{20}$$

$$H = \frac{-35}{27} \times \frac{45}{-21}$$

$$H = \frac{-35}{27} \times \frac{15 \times \cancel{3}}{-7 \times \cancel{3}}$$

$$H = \frac{-35}{27} \times \frac{-15}{7}$$

$$H = \frac{-5 \times \cancel{7}}{9 \times \cancel{3}} \times \frac{-5 \times \cancel{3}}{1 \times \cancel{7}}$$

$$H = \frac{25}{9}$$

Corrigé de l'exercice 2

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

$$A = \frac{1}{4} \div \frac{3}{5}$$

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

$$A = \frac{5}{12}$$

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

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

$$C = \frac{4}{3} \div \frac{1}{-2}$$

$$C = \frac{4}{3} \times -2$$

$$C = \frac{-8}{3}$$

$$D = \frac{-1}{-8} \times \frac{-3}{2}$$

$$D = \frac{-3}{16}$$

$$E = \frac{20}{49} \div \frac{2}{49}$$

$$E = \frac{20}{49} \times \frac{49}{2}$$

$$E = \frac{10 \times \cancel{2}}{1 \times \cancel{49}} \times \frac{1 \times \cancel{49}}{1 \times \cancel{2}}$$

$$E = 10$$

$$F = \frac{12}{35} \times \frac{35}{54}$$

$$F = \frac{2 \times \cancel{6}}{1 \times \cancel{35}} \times \frac{1 \times \cancel{35}}{9 \times \cancel{6}}$$

$$F = \frac{2}{9}$$

$$G = \frac{63}{-63} \times \frac{9}{14}$$

$$G = \frac{1 \times \cancel{63}}{-1 \times \cancel{63}} \times \frac{9}{14}$$

$$G = -1 \times \frac{9}{14}$$

$$G = \frac{-9}{14}$$

$$H = \frac{15}{81} \div \frac{30}{-63}$$

$$H = \frac{15}{81} \times \frac{-63}{30}$$

$$H = \frac{5 \times \cancel{3}}{27 \times \cancel{3}} \times \frac{-21 \times \cancel{3}}{10 \times \cancel{3}}$$

$$H = \frac{5}{27} \times \frac{-21}{10}$$

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

$$H = \frac{-7}{18}$$

Corrigé de l'exercice 3

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

$$A = \frac{3}{4} \times \frac{7}{2}$$

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

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

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

$$B = \frac{49}{12}$$

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

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

$$C = \frac{-35}{4}$$

$$D = \frac{3}{4} \times \frac{9}{-4}$$

$$D = \frac{-27}{16}$$

$$E = \frac{15}{56} \times \frac{49}{15}$$

$$E = \frac{1 \times \cancel{15}}{8 \times \cancel{7}} \times \frac{7 \times \cancel{7}}{1 \times \cancel{15}}$$

$$E = \frac{7}{8}$$

$$F = \frac{25}{21} \div \frac{5}{14}$$

$$F = \frac{25}{21} \times \frac{14}{5}$$

$$F = \frac{5 \times \cancel{7}}{3 \times \cancel{7}} \times \frac{2 \times \cancel{7}}{1 \times \cancel{7}}$$

$$F = \frac{10}{3}$$

$$G = \frac{-40}{-21} \times \frac{49}{-40}$$

$$G = \frac{1 \times \cancel{40}}{3 \times \cancel{7}} \times \frac{-7 \times \cancel{7}}{1 \times \cancel{40}}$$

$$G = \frac{-7}{3}$$

$$H = \frac{-15}{28} \div \frac{3}{14}$$

$$H = \frac{-15}{28} \times \frac{14}{3}$$

$$H = \frac{-5 \times \cancel{3}}{2 \times \cancel{14}} \times \frac{1 \times \cancel{14}}{1 \times \cancel{3}}$$

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

Corrigé de l'exercice 4

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

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

$$A = \frac{49}{6}$$

$$B = \frac{2}{3} \div \frac{1}{5}$$

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

$$B = \frac{10}{3}$$

$$C = \frac{-5}{-8} \times \frac{3}{-2}$$

$$C = \frac{-15}{16}$$

$$D = \frac{8}{3} \div \frac{-1}{-10}$$

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

$$D = \frac{80}{3}$$

$$E = \frac{32}{27} \div \frac{40}{63}$$

$$E = \frac{32}{27} \times \frac{63}{40}$$

$$E = \frac{4 \times \cancel{8}}{3 \times \cancel{9}} \times \frac{7 \times \cancel{9}}{5 \times \cancel{8}}$$

$$E = \frac{28}{15}$$

$$F = \frac{25}{48} \times \frac{24}{35}$$

$$F = \frac{5 \times \cancel{5}}{2 \times \cancel{24}} \times \frac{1 \times \cancel{24}}{7 \times \cancel{5}}$$

$$F = \frac{5}{14}$$

$$G = \frac{-56}{32} \div \frac{-63}{32}$$

$$G = \frac{-56}{32} \times \frac{-32}{63}$$

$$G = \frac{-7 \times \cancel{8}}{4 \times \cancel{8}} \times \frac{-32}{63}$$

$$G = \frac{-7}{4} \times \frac{-32}{63}$$

$$G = \frac{-1 \times \cancel{7}}{1 \times \cancel{4}} \times \frac{-8 \times \cancel{4}}{9 \times \cancel{7}}$$

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

$$H = \frac{-8}{-35} \times \frac{-70}{-80}$$

$$H = \frac{-8}{-35} \times \frac{-7 \times \cancel{10}}{-8 \times \cancel{10}}$$

$$H = \frac{8}{35} \times \frac{7}{8}$$

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

$$H = \frac{1}{5}$$

Corrigé de l'exercice 5

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

$$A = \frac{2}{5} \div \frac{1}{7}$$

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

$$A = \frac{14}{5}$$

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

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

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

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

$$C = \frac{-35}{6}$$

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

$$D = \frac{21}{4}$$

$$E = \frac{16}{63} \div \frac{32}{49}$$

$$E = \frac{16}{63} \times \frac{49}{32}$$

$$E = \frac{1 \times \cancel{16}}{9 \times \cancel{7}} \times \frac{7 \times \cancel{7}}{2 \times \cancel{16}}$$

$$E = \frac{7}{18}$$

$$F = \frac{40}{49} \times \frac{49}{16}$$

$$F = \frac{5 \times \cancel{8}}{1 \times \cancel{40}} \times \frac{1 \times \cancel{40}}{2 \times \cancel{8}}$$

$$F = \frac{5}{2}$$

$$G = \frac{-27}{10} \div \frac{-54}{-15}$$

$$G = \frac{-27}{10} \times \frac{15}{54}$$

$$G = \frac{-27}{10} \times \frac{5 \times \cancel{3}}{18 \times \cancel{3}}$$

$$G = \frac{-27}{10} \times \frac{5}{18}$$

$$G = \frac{-3 \times \cancel{9}}{2 \times \cancel{5}} \times \frac{1 \times \cancel{5}}{2 \times \cancel{9}}$$

$$G = \frac{-3}{4}$$

$$H = \frac{16}{-18} \times \frac{-6}{-12}$$

$$H = \frac{8 \times \cancel{2}}{-9 \times \cancel{2}} \times \frac{-1 \times \cancel{6}}{-2 \times \cancel{6}}$$

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

$$H = \frac{-4 \times \cancel{2}}{9} \times \frac{1}{1 \times \cancel{2}}$$

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

Corrigé de l'exercice 6

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

$$A = \frac{9}{8} \times \frac{1}{2}$$

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

$$B = \frac{4}{3} \div \frac{3}{5}$$

$$B = \frac{4}{3} \times \frac{5}{3}$$

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

$$C = \frac{-1}{6} \div \frac{2}{7}$$

$$C = \frac{-1}{6} \times \frac{7}{2}$$

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

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

$$D = \frac{81}{4}$$

$$E = \frac{49}{24} \div \frac{7}{24}$$

$$E = \frac{49}{24} \times \frac{24}{7}$$

$$E = \frac{7 \times \cancel{7}}{1 \times \cancel{24}} \times \frac{1 \times \cancel{24}}{1 \times \cancel{7}}$$

$$E = 7$$

$$F = \frac{49}{25} \times \frac{25}{63}$$

$$F = \frac{7 \times \cancel{7}}{1 \times \cancel{25}} \times \frac{1 \times \cancel{25}}{9 \times \cancel{7}}$$

$$F = \frac{7}{9}$$

$$G = \frac{16}{-90} \times \frac{-45}{-32}$$

$$G = \frac{8 \times \cancel{2}}{-45 \times \cancel{2}} \times \frac{-45}{-32}$$

$$G = \frac{-8}{45} \times \frac{45}{32}$$

$$G = \frac{-1 \times \cancel{8}}{1 \times \cancel{45}} \times \frac{1 \times \cancel{45}}{4 \times \cancel{8}}$$

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

$$H = \frac{63}{16} \div \frac{63}{20}$$

$$H = \frac{63}{16} \times \frac{20}{63}$$

$$H = \frac{1 \times \cancel{63}}{4 \times \cancel{4}} \times \frac{5 \times \cancel{4}}{1 \times \cancel{63}}$$

$$H = \frac{5}{4}$$