

**Exercice 1**

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

$$\begin{array}{l} A = \frac{3}{2} \times \frac{5}{8} \\ B = \frac{7}{4} \div \frac{3}{7} \end{array}$$

$$\begin{array}{l} C = \frac{-1}{-3} \times \frac{-1}{-4} \\ D = \frac{-7}{2} \div \frac{-2}{-9} \end{array}$$

$$\begin{array}{l} E = \frac{18}{25} \times \frac{35}{18} \\ F = \frac{32}{35} \div \frac{16}{35} \end{array}$$

$$\begin{array}{l} G = \frac{-21}{40} \div \frac{-42}{-12} \\ H = \frac{-35}{27} \times \frac{45}{-21} \end{array}$$

**Exercice 2**

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

$$\begin{array}{l} A = \frac{1}{4} \div \frac{3}{5} \\ B = \frac{7}{2} \times \frac{3}{4} \end{array}$$

$$\begin{array}{l} C = \frac{4}{3} \div \frac{1}{-2} \\ D = \frac{-1}{-8} \times \frac{-3}{2} \end{array}$$

$$\begin{array}{l} E = \frac{20}{49} \div \frac{2}{49} \\ F = \frac{12}{35} \times \frac{35}{54} \end{array}$$

$$\begin{array}{l} G = \frac{63}{-63} \times \frac{9}{14} \\ H = \frac{15}{81} \div \frac{30}{-63} \end{array}$$

**Exercice 3**

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

$$\begin{array}{l} A = \frac{3}{4} \times \frac{7}{2} \\ B = \frac{7}{2} \div \frac{6}{7} \end{array}$$

$$\begin{array}{l} C = \frac{5}{4} \div \frac{1}{-7} \\ D = \frac{3}{4} \times \frac{9}{-4} \end{array}$$

$$\begin{array}{l} E = \frac{15}{56} \times \frac{49}{15} \\ F = \frac{25}{21} \div \frac{5}{14} \end{array}$$

$$\begin{array}{l} G = \frac{-40}{-21} \times \frac{49}{-40} \\ H = \frac{-15}{28} \div \frac{3}{14} \end{array}$$

**Exercice 4**

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

$$\begin{array}{l} A = \frac{7}{3} \times \frac{7}{2} \\ B = \frac{2}{3} \div \frac{1}{5} \end{array}$$

$$\begin{array}{l} C = \frac{-5}{-8} \times \frac{3}{-2} \\ D = \frac{8}{3} \div \frac{-1}{-10} \end{array}$$

$$\begin{array}{l} E = \frac{32}{27} \div \frac{40}{63} \\ F = \frac{25}{48} \times \frac{24}{35} \end{array}$$

$$\begin{array}{l} G = \frac{-56}{32} \div \frac{-63}{32} \\ H = \frac{-8}{-35} \times \frac{-70}{-80} \end{array}$$

**Exercice 5**

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

$$\begin{array}{l} A = \frac{2}{5} \div \frac{1}{7} \\ B = \frac{4}{3} \times \frac{2}{3} \end{array}$$

$$\begin{array}{l} C = \frac{-5}{2} \div \frac{-3}{-7} \\ D = \frac{-7}{-2} \times \frac{3}{2} \end{array}$$

$$\begin{array}{l} E = \frac{16}{63} \div \frac{32}{49} \\ F = \frac{40}{49} \times \frac{49}{16} \end{array}$$

$$\begin{array}{l} G = \frac{-27}{10} \div \frac{-54}{-15} \\ H = \frac{16}{-18} \times \frac{-6}{-12} \end{array}$$

**Exercice 6**

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

$$\begin{array}{l} A = \frac{9}{8} \times \frac{1}{2} \\ B = \frac{4}{3} \div \frac{3}{5} \end{array}$$

$$\begin{array}{l} C = \frac{-1}{6} \div \frac{2}{7} \\ D = \frac{-9}{2} \times \frac{9}{-2} \end{array}$$

$$\begin{array}{l} E = \frac{49}{24} \div \frac{7}{24} \\ F = \frac{49}{25} \times \frac{25}{63} \end{array}$$

$$\begin{array}{l} G = \frac{16}{-90} \times \frac{-45}{-32} \\ H = \frac{63}{16} \div \frac{63}{20} \end{array}$$

**Corrigé de l'exercice 1**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

$$F = \boxed{2}$$

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

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

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

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

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

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

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

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

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

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

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

**Corrigé de l'exercice 2**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

$$E = \boxed{10}$$

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

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

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

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

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

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

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

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

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

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

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

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

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

**Corrigé de l'exercice 3**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

### Corrigé de l'exercice 4

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

### Corrigé de l'exercice 5

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

### Corrigé de l'exercice 6

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

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

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

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

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

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

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

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

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

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

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

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

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

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

$$E = 7$$

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

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

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

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

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

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

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

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

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

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

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

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

**Exercice 1**

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

$$A = \frac{6}{5} \div \frac{1}{4}$$

$$B = \frac{1}{2} \times \frac{1}{10}$$

$$C = \frac{-8}{7} \div \frac{1}{5}$$

$$D = \frac{-7}{-4} \times \frac{1}{5}$$

$$E = \frac{63}{25} \times \frac{5}{42}$$

$$F = \frac{9}{28} \div \frac{45}{28}$$

$$G = \frac{-25}{28} \times \frac{-20}{-10}$$

$$H = \frac{-12}{63} \div \frac{32}{-36}$$

**Exercice 2**

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

$$A = \frac{3}{7} \times \frac{9}{2}$$

$$B = \frac{8}{5} \div \frac{3}{4}$$

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

$$D = \frac{9}{-5} \times \frac{-7}{-4}$$

$$E = \frac{40}{63} \times \frac{81}{10}$$

$$F = \frac{70}{27} \div \frac{7}{45}$$

$$G = \frac{6}{24} \div \frac{-4}{-15}$$

$$H = \frac{-12}{-30} \times \frac{-15}{-20}$$

**Exercice 3**

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

$$A = \frac{9}{10} \times \frac{1}{2}$$

$$B = \frac{1}{6} \div \frac{1}{7}$$

$$C = \frac{-1}{2} \times \frac{9}{10}$$

$$D = \frac{9}{4} \div \frac{2}{5}$$

$$E = \frac{9}{20} \div \frac{9}{40}$$

$$F = \frac{10}{49} \times \frac{7}{20}$$

$$G = \frac{-8}{-14} \times \frac{-21}{32}$$

$$H = \frac{-12}{30} \div \frac{6}{-6}$$

**Exercice 4**

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

$$A = \frac{1}{5} \times \frac{9}{4}$$

$$B = \frac{5}{2} \div \frac{6}{5}$$

$$C = \frac{1}{-2} \times \frac{-9}{-10}$$

$$D = \frac{-10}{3} \div \frac{1}{-4}$$

$$E = \frac{64}{35} \times \frac{15}{64}$$

$$F = \frac{90}{49} \div \frac{20}{21}$$

$$G = \frac{36}{27} \div \frac{-8}{-45}$$

$$H = \frac{-80}{-24} \times \frac{-3}{-50}$$

**Exercice 5**

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

$$A = \frac{3}{2} \div \frac{1}{7}$$

$$B = \frac{1}{2} \times \frac{9}{5}$$

$$C = \frac{8}{7} \div \frac{-1}{-5}$$

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

$$E = \frac{2}{49} \times \frac{49}{8}$$

$$F = \frac{80}{27} \div \frac{100}{27}$$

$$G = \frac{-27}{80} \times \frac{-20}{-12}$$

$$H = \frac{63}{32} \div \frac{14}{-28}$$

**Exercice 6**

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

$$A = \frac{5}{7} \div \frac{1}{4}$$

$$B = \frac{1}{4} \times \frac{7}{2}$$

$$C = \frac{-5}{3} \div \frac{1}{8}$$

$$D = \frac{-1}{-2} \times \frac{7}{10}$$

$$E = \frac{81}{40} \times \frac{40}{63}$$

$$F = \frac{45}{16} \div \frac{27}{20}$$

$$G = \frac{8}{70} \div \frac{-20}{-70}$$

$$H = \frac{30}{-36} \times \frac{9}{10}$$

**Corrigé de l'exercice 1**

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

$$A = \frac{6}{5} \div \frac{1}{4}$$

$$A = \frac{6}{5} \times 4$$

$$A = \frac{24}{5}$$

$$B = \frac{1}{2} \times \frac{1}{10}$$

$$B = \frac{1}{20}$$

$$C = \frac{-8}{7} \div \frac{1}{5}$$

$$C = \frac{-8}{7} \times 5$$

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

$$D = \frac{-7}{-4} \times \frac{1}{5}$$

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

$$E = \frac{63}{25} \times \frac{5}{42}$$

$$E = \frac{3 \times 21}{5 \times 5} \times \frac{1 \times 5}{2 \times 21}$$

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

$$F = \frac{9}{28} \div \frac{45}{28}$$

$$F = \frac{9}{28} \times \frac{28}{45}$$

$$F = \frac{1 \times 9}{1 \times 28} \times \frac{1 \times 28}{5 \times 9}$$

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

$$G = \frac{-25}{28} \times \frac{-20}{-10}$$

$$G = \frac{-25}{28} \times \frac{-2 \times 10}{-1 \times 10}$$

$$G = \frac{-25}{28} \times 2$$

$$G = \frac{-25}{14 \times 2} \times 1 \times 2$$

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

$$H = \frac{-12}{63} \div \frac{32}{-36}$$

$$H = \frac{-12}{63} \times \frac{-36}{32}$$

$$H = \frac{-4 \times 3}{21 \times 3} \times \frac{-9 \times 4}{8 \times 4}$$

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

$$H = \frac{-1 \times 4}{7 \times 3} \times \frac{-3 \times 3}{2 \times 4}$$

$$H = \frac{3}{14}$$

**Corrigé de l'exercice 2**

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

$$A = \frac{3}{7} \times \frac{9}{2}$$

$$A = \frac{27}{14}$$

$$B = \frac{8}{5} \div \frac{3}{4}$$

$$B = \frac{8}{5} \times \frac{4}{3}$$

$$B = \frac{32}{15}$$

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

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

$$C = \frac{24}{7}$$

$$D = \frac{9}{-5} \times \frac{-7}{-4}$$

$$D = \frac{-63}{20}$$

$$E = \frac{40}{63} \times \frac{81}{10}$$

$$E = \frac{4 \times 10}{7 \times 9} \times \frac{9 \times 9}{1 \times 10}$$

$$E = \frac{36}{7}$$

$$F = \frac{70}{27} \div \frac{7}{45}$$

$$F = \frac{70}{27} \times \frac{45}{7}$$

$$F = \frac{10 \times 7}{3 \times 9} \times \frac{5 \times 9}{1 \times 7}$$

$$F = \frac{50}{3}$$

$$G = \frac{6}{24} \div \frac{-4}{-15}$$

$$G = \frac{6}{24} \times \frac{15}{4}$$

$$G = \frac{1 \times 6}{4 \times 6} \times \frac{15}{4}$$

$$G = \frac{1}{4} \times \frac{15}{4}$$

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

$$H = \frac{-12}{-30} \times \frac{-15}{-20}$$

$$H = \frac{-2 \times 6}{-5 \times 6} \times \frac{-3 \times 5}{-4 \times 5}$$

$$H = \frac{2}{5} \times \frac{3}{4}$$

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

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

**Corrigé de l'exercice 3**

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

$$A = \frac{9}{10} \times \frac{1}{2}$$

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

$$B = \frac{1}{6} \div \frac{1}{7}$$

$$B = \frac{1}{6} \times 7$$

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

$$C = \frac{-1}{2} \times \frac{9}{10}$$

$$C = \frac{-9}{20}$$

$$D = \frac{9}{4} \div \frac{2}{5}$$

$$D = \frac{9}{4} \times \frac{5}{2}$$

$$D = \frac{45}{8}$$

$$E = \frac{9}{20} \div \frac{9}{40}$$

$$E = \frac{9}{20} \times \frac{40}{9}$$

$$E = \frac{1 \times 9}{1 \times 20} \times \frac{2 \times 20}{1 \times 9}$$

$$E = 2$$

$$F = \frac{10}{49} \times \frac{7}{20}$$

$$F = \frac{1 \times 10}{7 \times 7} \times \frac{1 \times 7}{2 \times 10}$$

$$F = \frac{1}{14}$$

$$G = \frac{-8}{-14} \times \frac{-21}{32}$$

$$G = \frac{-4 \times 2}{-7 \times 2} \times \frac{-21}{32}$$

$$G = \frac{4}{7} \times \frac{-21}{32}$$

$$G = \frac{1 \times 4}{1 \times 7} \times \frac{-3 \times 7}{8 \times 4}$$

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

$$H = \frac{-12}{30} \div \frac{6}{-6}$$

$$H = \frac{-12}{30} \times \frac{-6}{6}$$

$$H = \frac{-2 \times 6}{5 \times 6} \times \frac{-1 \times 6}{1 \times 6}$$

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

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

### Corrigé de l'exercice 4

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

$$A = \frac{1}{5} \times \frac{9}{4}$$

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

$$B = \frac{5}{2} \div \frac{6}{5}$$

$$B = \frac{5}{2} \times \frac{5}{6}$$

$$B = \frac{25}{12}$$

$$C = \frac{1}{-2} \times \frac{-9}{-10}$$

$$C = \frac{-9}{20}$$

$$D = \frac{-10}{3} \div \frac{1}{-4}$$

$$D = \frac{-10}{3} \times -4$$

$$D = \frac{40}{3}$$

$$E = \frac{64}{35} \times \frac{15}{64}$$

$$E = \frac{1 \times 64}{7 \times 5} \times \frac{3 \times 5}{1 \times 64}$$

$$E = \frac{3}{7}$$

$$F = \frac{90}{49} \div \frac{20}{21}$$

$$F = \frac{90}{49} \times \frac{21}{20}$$

$$F = \frac{9 \times 10}{7 \times 7} \times \frac{3 \times 7}{2 \times 10}$$

$$F = \frac{27}{14}$$

$$G = \frac{36}{27} \div \frac{-8}{-45}$$

$$G = \frac{36}{27} \times \frac{45}{8}$$

$$G = \frac{4 \times 9}{3 \times 9} \times \frac{45}{8}$$

$$G = \frac{4}{3} \times \frac{45}{8}$$

$$G = \frac{1 \times 4}{1 \times 3} \times \frac{15 \times 3}{2 \times 4}$$

$$G = \frac{15}{2}$$

$$H = \frac{-80}{-24} \times \frac{-3}{-50}$$

$$H = \frac{-10 \times 6}{-3 \times 6} \times \frac{-3}{-50}$$

$$H = \frac{10}{3} \times \frac{3}{50}$$

$$H = \frac{1 \times 10}{1 \times 3} \times \frac{1 \times 3}{5 \times 10}$$

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

### Corrigé de l'exercice 5

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

$$A = \frac{3}{2} \div \frac{1}{7}$$

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

$$A = \frac{21}{2}$$

$$B = \frac{1}{2} \times \frac{9}{5}$$

$$B = \frac{9}{10}$$

$$C = \frac{8}{7} \div \frac{-1}{-5}$$

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

$$C = \frac{40}{7}$$

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

$$D = \frac{45}{4}$$

$$E = \frac{2}{49} \times \frac{49}{8}$$

$$E = \frac{1 \times 2}{1 \times 49} \times \frac{1 \times 49}{4 \times 2}$$

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

$$F = \frac{80}{27} \div \frac{100}{27}$$

$$F = \frac{80}{27} \times \frac{27}{100}$$

$$F = \frac{4 \times 20}{1 \times 27} \times \frac{1 \times 27}{5 \times 20}$$

$$F = \boxed{\frac{4}{5}}$$

$$G = \frac{-27}{80} \times \frac{-20}{-12}$$

$$G = \frac{-27}{80} \times \frac{-5 \times 4}{-3 \times 4}$$

$$G = \frac{-27}{80} \times \frac{5}{3}$$

$$G = \frac{-9 \times 3}{16 \times 5} \times \frac{1 \times 5}{1 \times 3}$$

$$G = \boxed{\frac{-9}{16}}$$

$$H = \frac{63}{32} \div \frac{14}{-28}$$

$$H = \frac{63}{32} \times \frac{-28}{14}$$

$$H = \frac{63}{32} \times \frac{-2 \times 14}{1 \times 14}$$

$$H = \frac{63}{32} \times -2$$

$$H = \frac{63}{16 \times 2} \times -1 \times 2$$

$$H = \boxed{\frac{-63}{16}}$$

### Corrigé de l'exercice 6

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

$$A = \frac{5}{7} \div \frac{1}{4}$$

$$A = \frac{5}{7} \times 4$$

$$A = \boxed{\frac{20}{7}}$$

$$B = \frac{1}{4} \times \frac{7}{2}$$

$$B = \boxed{\frac{7}{8}}$$

$$C = \frac{-5}{3} \div \frac{1}{8}$$

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

$$C = \boxed{\frac{-40}{3}}$$

$$D = \frac{-1}{-2} \times \frac{7}{10}$$

$$D = \boxed{\frac{7}{20}}$$

$$E = \frac{81}{40} \times \frac{40}{63}$$

$$E = \frac{9 \times 9}{1 \times 40} \times \frac{1 \times 40}{7 \times 9}$$

$$E = \boxed{\frac{9}{7}}$$

$$F = \frac{45}{16} \div \frac{27}{20}$$

$$F = \frac{45}{16} \times \frac{20}{27}$$

$$F = \frac{5 \times 9}{4 \times 4} \times \frac{5 \times 4}{3 \times 9}$$

$$F = \boxed{\frac{25}{12}}$$

$$G = \frac{8}{70} \div \frac{-20}{-70}$$

$$G = \frac{8}{70} \times \frac{70}{20}$$

$$G = \frac{4 \times 2}{35 \times 2} \times \frac{7 \times 10}{2 \times 10}$$

$$G = \frac{4}{35} \times \frac{7}{2}$$

$$G = \frac{2 \times 2}{5 \times 7} \times \frac{1 \times 7}{1 \times 2}$$

$$G = \boxed{\frac{2}{5}}$$

$$H = \frac{30}{-36} \times \frac{9}{10}$$

$$H = \frac{5 \times 6}{-6 \times 6} \times \frac{9}{10}$$

$$H = \frac{-5}{6} \times \frac{9}{10}$$

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

$$H = \boxed{\frac{-3}{4}}$$

**Exercice 1**

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

$$A = \frac{5}{4} \times \frac{7}{4}$$

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

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

$$D = \frac{-1}{2} \div \frac{-9}{5}$$

$$E = \frac{27}{20} \times \frac{5}{27}$$

$$F = \frac{9}{10} \div \frac{3}{35}$$

$$G = \frac{-16}{30} \div \frac{-48}{25}$$

$$H = \frac{-27}{35} \times \frac{-25}{-27}$$

**Exercice 2**

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

$$A = \frac{7}{2} \times \frac{9}{10}$$

$$B = \frac{9}{5} \div \frac{2}{3}$$

$$C = \frac{-4}{3} \div \frac{-5}{7}$$

$$D = \frac{-1}{2} \times \frac{9}{7}$$

$$E = \frac{7}{10} \times \frac{15}{14}$$

$$F = \frac{35}{36} \div \frac{5}{72}$$

$$G = \frac{-27}{-20} \times \frac{-40}{27}$$

$$H = \frac{50}{15} \div \frac{-100}{-27}$$

**Exercice 3**

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

$$A = \frac{1}{2} \times \frac{1}{10}$$

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

$$C = \frac{7}{2} \div \frac{-8}{7}$$

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

$$E = \frac{56}{45} \times \frac{63}{16}$$

$$F = \frac{27}{16} \div \frac{9}{16}$$

$$G = \frac{63}{40} \div \frac{27}{-70}$$

$$H = \frac{-90}{-60} \times \frac{10}{-90}$$

**Exercice 4**

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

$$A = \frac{5}{3} \div \frac{6}{7}$$

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

$$C = \frac{1}{3} \div \frac{1}{-5}$$

$$D = \frac{-7}{-4} \times \frac{-1}{-5}$$

$$E = \frac{25}{24} \times \frac{9}{50}$$

$$F = \frac{28}{45} \div \frac{8}{15}$$

$$G = \frac{-27}{32} \times \frac{16}{9}$$

$$H = \frac{54}{42} \div \frac{54}{-14}$$

**Exercice 5**

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

$$A = \frac{9}{10} \times \frac{7}{2}$$

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

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

$$D = \frac{-7}{5} \div \frac{1}{7}$$

$$E = \frac{3}{16} \div \frac{27}{16}$$

$$F = \frac{50}{9} \times \frac{21}{50}$$

$$G = \frac{20}{72} \div \frac{50}{-18}$$

$$H = \frac{-12}{-14} \times \frac{49}{-36}$$

**Exercice 6**

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

$$A = \frac{5}{6} \div \frac{1}{7}$$

$$B = \frac{5}{3} \times \frac{7}{3}$$

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

$$D = \frac{-9}{2} \div \frac{-7}{3}$$

$$E = \frac{4}{27} \div \frac{20}{27}$$

$$F = \frac{40}{63} \times \frac{63}{16}$$

$$G = \frac{-14}{72} \div \frac{-8}{-90}$$

$$H = \frac{-54}{-72} \times \frac{-32}{27}$$

**Corrigé de l'exercice 1**

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

$$A = \frac{5}{4} \times \frac{7}{4}$$

$$A = \frac{35}{16}$$

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

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

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

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

$$C = \frac{49}{8}$$

$$D = \frac{-1}{2} \div \frac{-9}{5}$$

$$D = \frac{-1}{2} \times \frac{-5}{9}$$

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

$$E = \frac{27}{20} \times \frac{5}{27}$$

$$E = \frac{1 \times 27}{4 \times 5} \times \frac{1 \times 5}{1 \times 27}$$

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

$$F = \frac{9}{10} \div \frac{3}{35}$$

$$F = \frac{9}{10} \times \frac{35}{3}$$

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

$$F = \frac{21}{2}$$

$$G = \frac{-16}{30} \div \frac{-48}{25}$$

$$G = \frac{-16}{30} \times \frac{-25}{48}$$

$$G = \frac{-8 \times 2}{15 \times 2} \times \frac{-25}{48}$$

$$G = \frac{-8}{15} \times \frac{-25}{48}$$

$$G = \frac{-1 \times 8}{3 \times 5} \times \frac{-5 \times 5}{6 \times 8}$$

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

$$H = \frac{-27}{35} \times \frac{-25}{27}$$

$$H = \frac{-1 \times 27}{7 \times 5} \times \frac{5 \times 5}{1 \times 27}$$

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

**Corrigé de l'exercice 2**

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

$$A = \frac{7}{2} \times \frac{9}{10}$$

$$A = \frac{63}{20}$$

$$B = \frac{9}{5} \div \frac{2}{3}$$

$$B = \frac{9}{5} \times \frac{3}{2}$$

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

$$C = \frac{-4}{3} \div \frac{-5}{7}$$

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

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

$$D = \frac{-1}{2} \times \frac{9}{7}$$

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

$$E = \frac{7}{10} \times \frac{15}{14}$$

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

$$E = \frac{3}{4}$$

$$F = \frac{35}{36} \div \frac{5}{72}$$

$$F = \frac{35}{36} \times \frac{72}{5}$$

$$F = \frac{7 \times 5}{1 \times 36} \times \frac{2 \times 36}{1 \times 5}$$

$$F = 14$$

$$G = \frac{-27}{-20} \times \frac{-40}{27}$$

$$G = \frac{1 \times 27}{1 \times 20} \times \frac{-2 \times 20}{1 \times 27}$$

$$G = -2$$

$$H = \frac{50}{15} \div \frac{-100}{-27}$$

$$H = \frac{50}{15} \times \frac{27}{100}$$

$$H = \frac{10 \times 5}{3 \times 5} \times \frac{27}{100}$$

$$H = \frac{10}{3} \times \frac{27}{100}$$

$$H = \frac{1 \times 10}{1 \times 3} \times \frac{9 \times 3}{10 \times 10}$$

$$H = \frac{9}{10}$$

**Corrigé de l'exercice 3**

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

$$A = \frac{1}{2} \times \frac{1}{10}$$

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

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

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

$$B = \frac{21}{16}$$

$$C = \frac{7}{2} \div \frac{-8}{7}$$

$$C = \frac{7}{2} \times \frac{-7}{8}$$

$$C = \frac{-49}{16}$$

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

$$D = \frac{-25}{18}$$

$$E = \frac{56}{45} \times \frac{63}{16}$$

$$E = \frac{7 \times 8}{5 \times 9} \times \frac{7 \times 9}{2 \times 8}$$

$$E = \frac{49}{10}$$

$$F = \frac{27}{16} \div \frac{9}{16}$$

$$F = \frac{27}{16} \times \frac{16}{9}$$

$$F = \frac{3 \times 9}{1 \times 16} \times \frac{1 \times 16}{1 \times 9}$$

$$F = 3$$

$$G = \frac{63}{40} \div \frac{27}{-70}$$

$$G = \frac{63}{40} \times \frac{-70}{27}$$

$$G = \frac{7 \times 9}{4 \times 10} \times \frac{-7 \times 10}{3 \times 9}$$

$$G = \frac{-49}{12}$$

$$H = \frac{-90}{-60} \times \frac{10}{-90}$$

$$H = \frac{-3 \times 10}{-2 \times 30} \times \frac{1 \times 10}{-9 \times 10}$$

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

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

$$H = \frac{-1}{6}$$

### Corrigé de l'exercice 4

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

$$A = \frac{5}{3} \div \frac{6}{7}$$

$$A = \frac{5}{3} \times \frac{7}{6}$$

$$A = \frac{35}{18}$$

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

$$B = \frac{7}{16}$$

$$C = \frac{1}{3} \div \frac{1}{-5}$$

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

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

$$D = \frac{-7}{-4} \times \frac{-1}{-5}$$

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

$$E = \frac{25}{24} \times \frac{9}{50}$$

$$E = \frac{1 \times 25}{8 \times 3} \times \frac{3 \times 3}{2 \times 25}$$

$$E = \frac{3}{16}$$

$$F = \frac{28}{45} \div \frac{8}{15}$$

$$F = \frac{28}{45} \times \frac{15}{8}$$

$$F = \frac{7 \times 4}{3 \times 15} \times \frac{1 \times 15}{2 \times 4}$$

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

$$G = \frac{-27}{32} \times \frac{16}{9}$$

$$G = \frac{-3 \times 9}{2 \times 16} \times \frac{1 \times 16}{1 \times 9}$$

$$G = \frac{-3}{2}$$

$$H = \frac{54}{42} \div \frac{54}{-14}$$

$$H = \frac{54}{42} \times \frac{-14}{54}$$

$$H = \frac{9 \times 6}{7 \times 6} \times \frac{-7 \times 2}{27 \times 2}$$

$$H = \frac{9}{7} \times \frac{-7}{27}$$

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

$$H = \frac{-1}{3}$$

### Corrigé de l'exercice 5

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

$$A = \frac{9}{10} \times \frac{7}{2}$$

$$A = \frac{63}{20}$$

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

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

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

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

$$C = \frac{-63}{8}$$

$$D = \frac{-7}{5} \div \frac{1}{7}$$

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

$$D = \frac{-49}{5}$$

$$E = \frac{3}{16} \div \frac{27}{16}$$

$$E = \frac{3}{16} \times \frac{16}{27}$$

$$E = \frac{1 \times 3}{1 \times 16} \times \frac{1 \times 16}{9 \times 3}$$

$$E = \frac{1}{9}$$

$$F = \frac{50}{9} \times \frac{21}{50}$$

$$F = \frac{1 \times 50}{3 \times 3} \times \frac{7 \times 3}{1 \times 50}$$

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

$$G = \frac{20}{72} \div \frac{50}{-18}$$

$$G = \frac{20}{72} \times \frac{-18}{50}$$

$$G = \frac{5 \times 4}{18 \times 4} \times \frac{-9 \times 2}{25 \times 2}$$

$$G = \frac{5}{18} \times \frac{-9}{25}$$

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

$$G = \frac{-1}{10}$$

$$H = \frac{-12}{-14} \times \frac{49}{-36}$$

$$H = \frac{-6 \times 2}{-7 \times 2} \times \frac{49}{-36}$$

$$H = \frac{6}{7} \times \frac{-49}{36}$$

$$H = \frac{1 \times \emptyset}{1 \times \emptyset} \times \frac{-7 \times \emptyset}{6 \times \emptyset}$$

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

### Corrigé de l'exercice 6

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

$$A = \frac{5}{6} \div \frac{1}{7}$$

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

$$A = \frac{35}{6}$$

$$B = \frac{5}{3} \times \frac{7}{3}$$

$$B = \frac{35}{9}$$

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

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

$$D = \frac{-9}{2} \div \frac{-7}{3}$$

$$D = \frac{-9}{2} \times \frac{-3}{7}$$

$$D = \frac{27}{14}$$

$$E = \frac{4}{27} \div \frac{20}{27}$$

$$E = \frac{4}{27} \times \frac{27}{20}$$

$$E = \frac{1 \times 4}{1 \times 27} \times \frac{1 \times 27}{5 \times 4}$$

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

$$F = \frac{40}{63} \times \frac{63}{16}$$

$$F = \frac{5 \times 8}{1 \times 63} \times \frac{1 \times 63}{2 \times 8}$$

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

$$G = \frac{-14}{72} \div \frac{-8}{-90}$$

$$G = \frac{-14}{72} \times \frac{90}{8}$$

$$G = \frac{-7 \times 2}{36 \times 2} \times \frac{45 \times 2}{4 \times 2}$$

$$G = \frac{-7}{36} \times \frac{45}{4}$$

$$G = \frac{-7}{4 \times 9} \times \frac{5 \times 9}{4}$$

$$G = \frac{-35}{16}$$

$$H = \frac{-54}{-72} \times \frac{-32}{27}$$

$$H = \frac{-3 \times 18}{-4 \times 18} \times \frac{-32}{27}$$

$$H = \frac{3}{4} \times \frac{-32}{27}$$

$$H = \frac{1 \times 3}{1 \times 4} \times \frac{-8 \times 4}{9 \times 3}$$

$$H = \frac{-8}{9}$$

**Exercice 1**

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

$$\begin{array}{l} A = \frac{7}{8} \div \frac{1}{7} \\ B = \frac{5}{2} \times \frac{5}{8} \end{array}$$

$$\begin{array}{l} C = \frac{-7}{2} \div \frac{2}{-9} \\ D = \frac{-9}{2} \times \frac{-5}{2} \end{array}$$

$$\begin{array}{l} E = \frac{27}{10} \div \frac{27}{50} \\ F = \frac{5}{54} \times \frac{63}{10} \end{array}$$

$$\begin{array}{l} G = \frac{-18}{-40} \times \frac{5}{18} \\ H = \frac{-2}{45} \div \frac{6}{-27} \end{array}$$

**Exercice 2**

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

$$\begin{array}{l} A = \frac{7}{5} \div \frac{1}{2} \\ B = \frac{7}{4} \times \frac{1}{3} \end{array}$$

$$\begin{array}{l} C = \frac{-1}{2} \div \frac{3}{-5} \\ D = \frac{-1}{-4} \times \frac{-7}{-4} \end{array}$$

$$\begin{array}{l} E = \frac{32}{81} \div \frac{64}{63} \\ F = \frac{45}{16} \times \frac{40}{63} \end{array}$$

$$\begin{array}{l} G = \frac{27}{-16} \times \frac{-48}{-21} \\ H = \frac{-81}{10} \div \frac{45}{-10} \end{array}$$

**Exercice 3**

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

$$\begin{array}{l} A = \frac{4}{5} \div \frac{3}{8} \\ B = \frac{9}{2} \times \frac{5}{4} \end{array}$$

$$\begin{array}{l} C = \frac{9}{5} \div \frac{4}{-7} \\ D = \frac{4}{-3} \times \frac{-2}{-5} \end{array}$$

$$\begin{array}{l} E = \frac{4}{45} \times \frac{45}{4} \\ F = \frac{16}{45} \div \frac{16}{63} \end{array}$$

$$\begin{array}{l} G = \frac{27}{14} \div \frac{-90}{-56} \\ H = \frac{-30}{-48} \times \frac{36}{35} \end{array}$$

**Exercice 4**

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

$$\begin{array}{l} A = \frac{2}{7} \div \frac{1}{4} \\ B = \frac{1}{5} \times \frac{1}{2} \end{array}$$

$$\begin{array}{l} C = \frac{-3}{-7} \times \frac{-9}{-2} \\ D = \frac{4}{3} \div \frac{-3}{4} \end{array}$$

$$\begin{array}{l} E = \frac{49}{27} \div \frac{70}{81} \\ F = \frac{25}{16} \times \frac{16}{35} \end{array}$$

$$\begin{array}{l} G = \frac{-35}{18} \div \frac{42}{-18} \\ H = \frac{-56}{9} \times \frac{-15}{28} \end{array}$$

**Exercice 5**

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

$$\begin{array}{l} A = \frac{1}{8} \div \frac{1}{5} \\ B = \frac{9}{2} \times \frac{1}{4} \end{array}$$

$$\begin{array}{l} C = \frac{3}{5} \div \frac{-2}{-9} \\ D = \frac{-4}{-3} \times \frac{-10}{-3} \end{array}$$

$$\begin{array}{l} E = \frac{28}{27} \div \frac{16}{9} \\ F = \frac{2}{15} \times \frac{9}{8} \end{array}$$

$$\begin{array}{l} G = \frac{16}{45} \times \frac{-45}{-24} \\ H = \frac{21}{80} \div \frac{-3}{-64} \end{array}$$

**Exercice 6**

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

$$\begin{array}{l} A = \frac{1}{9} \times \frac{5}{2} \\ B = \frac{1}{2} \div \frac{4}{7} \end{array}$$

$$\begin{array}{l} C = \frac{1}{2} \times \frac{-7}{8} \\ D = \frac{-7}{5} \div \frac{-3}{-8} \end{array}$$

$$\begin{array}{l} E = \frac{70}{81} \times \frac{45}{28} \\ F = \frac{27}{70} \div \frac{6}{35} \end{array}$$

$$\begin{array}{l} G = \frac{-80}{12} \div \frac{24}{-21} \\ H = \frac{-48}{-10} \times \frac{-35}{-56} \end{array}$$

**Corrigé de l'exercice 1**

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

$$A = \frac{7}{8} \div \frac{1}{7}$$

$$A = \frac{7}{8} \times 7$$

$$A = \frac{49}{8}$$

$$B = \frac{5}{2} \times \frac{5}{8}$$

$$B = \frac{25}{16}$$

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

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

$$C = \frac{63}{4}$$

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

$$D = \frac{45}{4}$$

$$E = \frac{27}{10} \div \frac{27}{50}$$

$$E = \frac{27}{10} \times \frac{50}{27}$$

$$E = \frac{1 \times 27}{1 \times 10} \times \frac{5 \times 10}{1 \times 27}$$

$$E = 5$$

$$F = \frac{5}{54} \times \frac{63}{10}$$

$$F = \frac{1 \times 5}{6 \times 9} \times \frac{7 \times 9}{2 \times 5}$$

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

$$G = \frac{-18}{-40} \times \frac{5}{18}$$

$$G = \frac{-9 \times 2}{-20 \times 2} \times \frac{5}{18}$$

$$G = \frac{9}{20} \times \frac{5}{18}$$

$$G = \frac{1 \times 9}{4 \times 5} \times \frac{1 \times 5}{2 \times 9}$$

$$G = \frac{1}{8}$$

$$H = \frac{-2}{45} \div \frac{6}{-27}$$

$$H = \frac{-2}{45} \times \frac{-27}{6}$$

$$H = \frac{-2}{45} \times \frac{-9 \times 3}{2 \times 3}$$

$$H = \frac{-2}{45} \times \frac{-9}{2}$$

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

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

**Corrigé de l'exercice 2**

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

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

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

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

$$B = \frac{7}{4} \times \frac{1}{3}$$

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

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

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

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

$$D = \frac{-1}{-4} \times \frac{-7}{-4}$$

$$D = \frac{7}{16}$$

$$E = \frac{32}{81} \div \frac{64}{63}$$

$$E = \frac{32}{81} \times \frac{63}{64}$$

$$E = \frac{1 \times 32}{9 \times 9} \times \frac{7 \times 9}{2 \times 32}$$

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

$$F = \frac{45}{16} \times \frac{40}{63}$$

$$F = \frac{5 \times 9}{2 \times 8} \times \frac{5 \times 8}{7 \times 9}$$

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

$$G = \frac{27}{-16} \times \frac{-48}{-21}$$

$$G = \frac{27}{-16} \times \frac{-16 \times 3}{-7 \times 3}$$

$$G = \frac{-27}{16} \times \frac{16}{7}$$

$$G = \frac{-27}{1 \times 16} \times \frac{1 \times 16}{7}$$

$$G = \frac{-27}{7}$$

$$H = \frac{-81}{10} \div \frac{45}{-10}$$

$$H = \frac{-81}{10} \times \frac{-10}{45}$$

$$H = \frac{-81}{10} \times \frac{-2 \times 3}{9 \times 3}$$

$$H = \frac{-81}{10} \times \frac{-2}{9}$$

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

$$H = \frac{9}{5}$$

**Corrigé de l'exercice 3**

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

$$A = \frac{4}{5} \div \frac{3}{8}$$

$$A = \frac{4}{5} \times \frac{8}{3}$$

$$A = \frac{32}{15}$$

$$B = \frac{9}{2} \times \frac{5}{4}$$

$$B = \frac{45}{8}$$

$$C = \frac{9}{5} \div \frac{4}{-7}$$

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

$$C = \frac{-63}{20}$$

$$D = \frac{4}{-3} \times \frac{-2}{-5}$$

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

$$E = \frac{4}{45} \times \frac{45}{4}$$

$$E = \frac{1 \times 4}{1 \times 45} \times \frac{1 \times 45}{1 \times 4}$$

$$E = 1$$

$$F = \frac{16}{45} \div \frac{16}{63}$$

$$F = \frac{16}{45} \times \frac{63}{16}$$

$$F = \frac{1 \times 16}{5 \times 9} \times \frac{7 \times 9}{1 \times 16}$$

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

$$G = \frac{27}{14} \div \frac{-90}{-56}$$

$$G = \frac{27}{14} \times \frac{56}{90}$$

$$G = \frac{27}{14} \times \frac{28 \times 2}{45 \times 2}$$

$$G = \frac{27}{14} \times \frac{28}{45}$$

$$G = \frac{3 \times 9}{1 \times 14} \times \frac{2 \times 14}{5 \times 9}$$

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

$$H = \frac{-30}{-48} \times \frac{36}{35}$$

$$H = \frac{-5 \times 6}{-8 \times 6} \times \frac{36}{35}$$

$$H = \frac{5}{8} \times \frac{36}{35}$$

$$H = \frac{1 \times 5}{2 \times 4} \times \frac{9 \times 4}{7 \times 5}$$

$$H = \frac{9}{14}$$

### Corrigé de l'exercice 4

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

$$A = \frac{2}{7} \div \frac{1}{4}$$

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

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

$$B = \frac{1}{5} \times \frac{1}{2}$$

$$B = \frac{1}{10}$$

$$C = \frac{-3}{-7} \times \frac{-9}{-2}$$

$$C = \frac{27}{14}$$

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

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

$$D = \frac{-16}{9}$$

$$E = \frac{49}{27} \div \frac{70}{81}$$

$$E = \frac{49}{27} \times \frac{81}{70}$$

$$E = \frac{7 \times 7}{1 \times 27} \times \frac{3 \times 27}{10 \times 7}$$

$$E = \frac{21}{10}$$

$$F = \frac{25}{16} \times \frac{16}{35}$$

$$F = \frac{5 \times 5}{1 \times 16} \times \frac{1 \times 16}{7 \times 5}$$

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

$$G = \frac{-35}{18} \div \frac{42}{-18}$$

$$G = \frac{-35}{18} \times \frac{-18}{42}$$

$$G = \frac{-35}{18} \times \frac{-3 \times 6}{7 \times 6}$$

$$G = \frac{-35}{18} \times \frac{-3}{7}$$

$$G = \frac{-5 \times 7}{6 \times 3} \times \frac{-1 \times 3}{1 \times 7}$$

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

$$H = \frac{-56}{9} \times \frac{-15}{28}$$

$$H = \frac{-2 \times 28}{3 \times 3} \times \frac{-5 \times 3}{1 \times 28}$$

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

### Corrigé de l'exercice 5

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

$$A = \frac{1}{8} \div \frac{1}{5}$$

$$A = \frac{1}{8} \times 5$$

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

$$B = \frac{9}{2} \times \frac{1}{4}$$

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

$$C = \frac{3}{5} \div \frac{-2}{-9}$$

$$C = \frac{3}{5} \times \frac{9}{2}$$

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

$$D = \frac{-4}{-3} \times \frac{-10}{-3}$$

$$D = \frac{40}{9}$$

$$E = \frac{28}{27} \div \frac{16}{9}$$

$$E = \frac{28}{27} \times \frac{9}{16}$$

$$E = \frac{7 \times 4}{3 \times 9} \times \frac{1 \times 9}{4 \times 4}$$

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

$$F = \frac{2}{15} \times \frac{9}{8}$$

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

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

$$G = \frac{16}{45} \times \frac{-45}{-24}$$

$$G = \frac{16}{45} \times \frac{-15 \times 3}{-8 \times 3}$$

$$G = \frac{16}{45} \times \frac{15}{8}$$

$$G = \frac{2 \times 8}{3 \times 15} \times \frac{1 \times 15}{1 \times 8}$$

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

$$H = \frac{21}{80} \div \frac{-3}{-64}$$

$$H = \frac{21}{80} \times \frac{64}{3}$$

$$H = \frac{7 \times 3}{5 \times 16} \times \frac{4 \times 16}{1 \times 3}$$

$$H = \frac{28}{5}$$

### Corrigé de l'exercice 6

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

$$A = \frac{1}{9} \times \frac{5}{2}$$

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

$$B = \frac{1}{2} \div \frac{4}{7}$$

$$B = \frac{1}{2} \times \frac{7}{4}$$

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

$$C = \frac{1}{2} \times \frac{-7}{8}$$

$$C = \frac{-7}{16}$$

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

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

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

$$E = \frac{70}{81} \times \frac{45}{28}$$

$$E = \frac{5 \times 14}{9 \times 9} \times \frac{5 \times 9}{2 \times 14}$$

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

$$F = \frac{27}{70} \div \frac{6}{35}$$

$$F = \frac{27}{70} \times \frac{35}{6}$$

$$F = \frac{9 \times 3}{2 \times 35} \times \frac{1 \times 35}{2 \times 3}$$

$$F = \frac{9}{4}$$

$$G = \frac{-80}{12} \div \frac{24}{-21}$$

$$G = \frac{-80}{12} \times \frac{-21}{24}$$

$$G = \frac{-20 \times 4}{3 \times 4} \times \frac{-7 \times 3}{8 \times 3}$$

$$G = \frac{-20}{3} \times \frac{-7}{8}$$

$$G = \frac{-5 \times 4}{3} \times \frac{-7}{2 \times 4}$$

$$G = \frac{35}{6}$$

$$H = \frac{-48}{-10} \times \frac{-35}{-56}$$

$$H = \frac{-24 \times 2}{-5 \times 2} \times \frac{-5 \times 7}{-8 \times 7}$$

$$H = \frac{24}{5} \times \frac{5}{8}$$

$$H = \frac{3 \times 8}{1 \times 5} \times \frac{1 \times 5}{1 \times 8}$$

$$H = 3$$

**EXERCICE 1** - Calculer en donnant le résultat en *écriture fractionnaire* :

$A = \frac{2}{7} \times \frac{4}{3}$	$B = \frac{4}{7} \times \frac{2}{3}$	$C = 7 \times \frac{4}{11}$	$D = \frac{7}{11} \times 4$	$E = 9 \times \frac{-4}{5}$
$F = \frac{-2}{5} \times \frac{9}{5}$	$G = \frac{-7}{6} \times \frac{5}{-9}$	$H = \frac{7}{-10} \times \frac{-11}{-3}$	$I = \frac{-11}{-4} \times \frac{-9}{-13}$	$J = -\frac{5}{-7} \times \left(-\frac{15}{-2}\right)$
$K = \frac{-5}{2} \times \frac{2}{-3}$	$L = -\frac{-2}{-3} \times \left(-\frac{-3}{-7}\right)$	$M = 4 \times \frac{5}{-4}$	$N = \frac{-4}{15} \times (-5)$	$O = -12 \times \left(-\frac{7}{-6}\right)$
$P = \frac{-2}{-3} \times \frac{5}{-4}$	$Q = \frac{5}{-7} \times \frac{-3}{-15}$	$R = \frac{-5}{-7} \times \frac{14}{-15}$	$S = \frac{6}{-10} \times \frac{-1}{-3}$	$T = -\frac{-28}{-21} \times \left(-\frac{-6}{-4}\right)$

**EXERCICE 2** - Calculer en prenant le soin de **simplifier avant de calculer** :

$X = \frac{-4}{5} \times \frac{5}{-3} \times \frac{2}{7}$ $X = \frac{-4}{-3} \times \frac{2}{7}$ $X = \frac{8}{21}$	$Y = \frac{-6}{5} \times \frac{-7}{2} \times \frac{3}{-11}$ $Y = \frac{-3 \times (-7) \times 3}{5 \times (-11)}$ $Y = \frac{63}{55}$	$A = \frac{2}{5} \times \frac{5}{3}$	$B = \frac{3}{7} \times \frac{4}{-3}$	$C = \frac{6}{-5} \times \frac{-7}{-6}$
$D = \frac{9}{-11} \times \frac{-7}{18}$	$E = \frac{-9}{4} \times \frac{-2}{5}$	$F = \frac{3}{-4} \times \frac{8}{-7}$	$G = \frac{-4}{5} \times \frac{-7}{6}$	$H = \frac{7}{-10} \times \frac{-15}{-2}$
$I = \frac{-21}{-2} \times \frac{-5}{-28}$	$J = \frac{-2}{35} \times \frac{-25}{6}$	$K = \frac{21}{-8} \times \frac{-22}{15}$	$L = -\frac{-6}{-15} \times \frac{-20}{-8}$	$M = \frac{2}{-3} \times \frac{-11}{5} \times \frac{-5}{7}$
$N = \frac{-3}{-4} \times \frac{-5}{-2} \times \frac{4}{3}$	$O = \frac{-2}{-11} \times \frac{-5}{-6} \times \frac{-3}{35}$	$P = \frac{-4}{15} \times \left(-\frac{-21}{-6}\right) \times \frac{-10}{14}$	$Q = \frac{8}{25} \times \frac{77}{6} \times \left(-\frac{20}{88}\right)$	$R = \frac{23}{51} \times \frac{-13}{-19} \times \frac{-7}{9} \times \frac{0}{34}$

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## CORRIGE – M. QUET

## EXERCICE 1

$A = \frac{2}{7} \times \frac{4}{3}$	$B = \frac{4}{7} \times \frac{2}{3}$	$C = \frac{7}{1} \times \frac{4}{11}$	$D = \frac{7}{11} \times \frac{4}{1}$	$E = \frac{9}{1} \times \frac{-4}{5}$
$A = \frac{2 \times 4}{7 \times 3}$	$B = \frac{4 \times 2}{7 \times 3}$	$C = \frac{7 \times 4}{1 \times 11}$	$D = \frac{7 \times 4}{11 \times 1}$	$E = -\frac{9 \times 4}{1 \times 5}$
$A = \frac{8}{21}$	$B = \frac{8}{21}$	$C = \frac{28}{11}$	$D = \frac{28}{11}$	$E = -\frac{36}{5}$
$F = \frac{-2}{5} \times \frac{9}{5}$	$G = \frac{-7}{6} \times \frac{5}{-9}$	$H = \frac{7}{-10} \times \frac{-11}{-3}$	$I = \frac{-11}{-4} \times \frac{-9}{-13}$	$J = -\frac{5}{-7} \times \left(-\frac{15}{-2}\right)$
$F = -\frac{2 \times 9}{5 \times 5}$	$G = +\frac{7 \times 5}{6 \times 9}$	$H = -\frac{7 \times 11}{10 \times 3}$	$I = \frac{11}{4} \times \frac{9}{13}$	$J = -\frac{5}{7} \times \left(+\frac{15}{2}\right)$
$F = -\frac{18}{25}$	$G = \frac{35}{54}$	$H = -\frac{77}{30}$	$I = \frac{11 \times 9}{4 \times 13}$	$J = -\frac{5 \times 15}{7 \times 2}$
			$I = \frac{99}{52}$	$J = -\frac{75}{14}$
$K = \frac{-5}{2} \times \frac{2}{-3}$	$L = -\frac{-2}{-3} \times \left(-\frac{-3}{-7}\right)$	$M = 4 \times \frac{5}{-4}$	$N = \frac{-4}{15} \times (-5)$	$O = -12 \times \left(-\frac{7}{-6}\right)$
$K = +\frac{5 \times \boxed{2}}{\boxed{2} \times 3}$	$L = -\frac{2}{3} \times \left(-\frac{3}{7}\right)$	$M = -\frac{4}{1} \times \frac{5}{4}$	$N = +\frac{4}{15} \times \frac{5}{1}$	$O = -\frac{12}{1} \times \frac{7}{6}$
$K = \frac{5}{3}$	$L = +\frac{2 \times \boxed{3}}{\boxed{3} \times 7}$	$M = -\frac{\boxed{4} \times 5}{1 \times \boxed{4}}$	$N = \frac{4 \times 5}{15 \times 1}$	$O = -\frac{12 \times 7}{1 \times 6}$
	$L = \frac{2}{7}$	$M = -5$	$N = \frac{4 \times \boxed{5}}{3 \times \boxed{5} \times 1}$	$O = -\frac{\boxed{6} \times 2 \times 7}{1 \times \boxed{6}}$
				$O = -14$
$P = \frac{-2}{-3} \times \frac{5}{-4}$	$Q = \frac{5}{-7} \times \frac{-3}{-15}$	$R = \frac{-5}{-7} \times \frac{14}{-15}$	$S = \frac{6}{-10} \times \frac{-1}{-3}$	$T = -\frac{-28}{-21} \times \left(-\frac{-6}{-4}\right)$
$P = \frac{2}{3} \times \left(-\frac{5}{4}\right)$	$Q = -\frac{5}{7} \times \frac{3}{15}$	$R = \frac{5}{7} \times \left(-\frac{14}{15}\right)$	$S = -\frac{6}{10} \times \frac{1}{3}$	$T = -\frac{28}{21} \times \left(-\frac{6}{4}\right)$
$P = -\frac{2 \times 5}{3 \times 4}$	$Q = -\frac{5 \times 3}{7 \times 15}$	$R = -\frac{5 \times 14}{7 \times 15}$	$S = -\frac{6 \times 1}{10 \times 3}$	$T = +\frac{28 \times 6}{21 \times 4}$
$P = -\frac{\boxed{2} \times 5}{3 \times 2 \times \boxed{2}}$	$Q = -\frac{\boxed{5} \times \boxed{3}}{7 \times \boxed{3} \times \boxed{5}}$	$R = -\frac{\boxed{5} \times \boxed{7} \times 2}{\boxed{7} \times \boxed{5} \times 3}$	$S = -\frac{\boxed{3} \times \boxed{2} \times 1}{5 \times \boxed{2} \times \boxed{3}}$	$T = \frac{\boxed{7} \times 4 \times \boxed{3} \times \boxed{2}}{\boxed{7} \times \boxed{3} \times \boxed{2} \times 2}$
$P = -\frac{5}{6}$	$Q = -\frac{1}{7}$	$R = -\frac{2}{3}$	$S = -\frac{1}{5}$	$T = 2$

## EXERCICE 2

$X = \frac{-4}{5} \times \frac{5}{-3} \times \frac{2}{7}$	$Y = \frac{-6}{5} \times \frac{-7}{2} \times \frac{3}{-11}$	$A = \frac{2}{5} \times \frac{5}{3}$	$B = \frac{3}{7} \times \frac{4}{-3}$	$C = \frac{6}{-5} \times \frac{-7}{-6}$
$X = \frac{-4}{-3} \times \frac{2}{7}$	$Y = \frac{-3 \times (-7) \times 3}{5 \times (-11)}$	$A = \frac{2 \times \boxed{5}}{\boxed{5} \times 3}$	$B = -\frac{\boxed{3} \times 4}{7 \times \boxed{3}}$	$C = -\frac{\boxed{6} \times 7}{5 \times \boxed{6}}$
$X = \frac{8}{21}$	$Y = \frac{63}{55}$	$A = \frac{2}{3}$	$B = -\frac{4}{7}$	$C = -\frac{7}{5}$

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$D = \frac{9}{-11} \times \frac{-7}{18}$	$E = \frac{-9}{4} \times \frac{-2}{5}$	$F = \frac{3}{-4} \times \frac{8}{-7}$	$G = \frac{-4}{5} \times \frac{-7}{6}$	$H = \frac{7}{-10} \times \frac{-15}{-2}$
$D = + \frac{9 \times 7}{11 \times 18}$	$E = + \frac{9 \times 2}{4 \times 5}$	$F = + \frac{3 \times 8}{4 \times 7}$	$G = + \frac{4 \times 7}{5 \times 6}$	$H = - \frac{7 \times 15}{10 \times 2}$
$D = \frac{\boxed{9} \times 7}{11 \times 2 \times \boxed{9}}$	$E = \frac{9 \times \boxed{2}}{2 \times \boxed{2} \times 5}$	$F = \frac{3 \times \boxed{4} \times 2}{\boxed{4} \times 7}$	$G = \frac{2 \times \boxed{2} \times 7}{5 \times 3 \times \boxed{2}}$	$H = - \frac{7 \times \boxed{5} \times 3}{\boxed{5} \times 2 \times 2}$
$D = \frac{7}{22}$	$E = \frac{9}{10}$	$F = \frac{6}{7}$	$G = \frac{14}{15}$	$H = - \frac{21}{4}$
$I = \frac{-21}{-2} \times \frac{-5}{-28}$	$J = \frac{-2}{35} \times \frac{-25}{6}$	$K = \frac{21}{-8} \times \frac{-22}{15}$	$L = - \frac{-6}{-15} \times \frac{-20}{-8}$	$M = \frac{2}{-3} \times \frac{-11}{5} \times \frac{-5}{7}$
$I = + \frac{21 \times 5}{2 \times 28}$	$J = + \frac{2 \times 25}{35 \times 6}$	$K = \frac{21 \times 22}{8 \times 15}$	$L = - \frac{6 \times 20}{15 \times 8}$	$M = - \frac{2 \times 11 \times \boxed{5}}{3 \times \boxed{5} \times 7}$
$I = \frac{\boxed{7} \times 3 \times 5}{2 \times \boxed{7} \times 4}$	$J = \frac{\boxed{2} \times 5 \times \boxed{5}}{7 \times \boxed{5} \times \boxed{2} \times 3}$	$K = \frac{\boxed{3} \times 7 \times \boxed{2} \times 11}{\boxed{2} \times 4 \times \boxed{3} \times 5}$	$L = - \frac{\boxed{2} \times \boxed{3} \times \boxed{5} \times \boxed{4}}{\boxed{3} \times \boxed{5} \times \boxed{2} \times \boxed{4}}$	$M = - \frac{22}{21}$
$I = \frac{15}{8}$	$J = \frac{5}{21}$	$K = \frac{77}{20}$	$L = -1$	
$N = \frac{-3}{-4} \times \frac{-5}{-2} \times \frac{4}{3}$	$O = \frac{-2}{-11} \times \frac{-5}{-6} \times \frac{-3}{35}$	$P = \frac{-4}{15} \times \left( \frac{-21}{-6} \right) \times \frac{-10}{14}$	$Q = \frac{8}{25} \times \frac{77}{6} \times \left( \frac{-20}{88} \right)$	$R = \frac{23}{51} \times \frac{-13}{-19} \times \frac{-7}{9} \times \frac{0}{34}$
$N = + \frac{\boxed{3} \times 5 \times \boxed{4}}{\boxed{4} \times 2 \times \boxed{3}}$	$O = - \frac{2 \times 5 \times 3}{11 \times 6 \times 35}$	$P = - \frac{4 \times 21 \times 10}{15 \times 6 \times 14}$	$Q = - \frac{8 \times 77 \times 20}{25 \times 6 \times 88}$	$R = - \frac{23 \times 13 \times 7 \times \boxed{0}}{51 \times 19 \times 9 \times 34}$
$N = \frac{5}{2}$	$O = - \frac{\boxed{2} \times \boxed{5} \times \boxed{3}}{11 \times \boxed{2} \times \boxed{3} \times 7 \times \boxed{5}}$	$P = - \frac{2 \times \boxed{2} \times \boxed{7} \times \boxed{3} \times \boxed{5} \times \boxed{2}}{\boxed{3} \times \boxed{5} \times \boxed{2} \times 3 \times \boxed{2} \times \boxed{7}}$	$Q = - \frac{8 \times \boxed{11} \times 7 \times \boxed{5} \times 4}{\boxed{5} \times 5 \times 6 \times \boxed{8} \times \boxed{11}}$	$R = 0$
	$O = - \frac{1}{77}$	$P = - \frac{2}{3}$	$Q = - \frac{7 \times 2 \times \boxed{2}}{5 \times 3 \times \boxed{2}}$	
			$Q = - \frac{14}{15}$	