

**EXERCICE 1 :**

Calculer puis simplifier le résultat si possible :

$$A = \frac{31}{15} - \frac{11}{15}$$

$$B = \frac{16}{21} + \frac{26}{21}$$

$$C = 3 + \frac{20}{7}$$

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

$$E = \frac{3}{10} + \frac{63}{100}$$

$$F = \frac{22}{15} - \frac{4}{3}$$

$$G = \frac{25}{3} - \frac{64}{12}$$

$$H = \frac{26}{21} + \frac{3}{7}$$

**EXERCICE 2 :**

Compléter les égalités :

$$\frac{9}{13} + \frac{\dots}{\dots} = \frac{11}{13}$$

$$\frac{24}{23} - \frac{\dots}{\dots} = \frac{15}{23}$$

$$\frac{15}{4} - \frac{\dots}{\dots} = \frac{7}{8}$$

$$\frac{\dots}{\dots} + \frac{7}{3} = \frac{23}{9}$$

**EXERCICE 3 :**

Calculer :

$$A = \frac{3}{23} \times \frac{11}{2}$$

$$B = \frac{9}{11} \times \frac{5}{7}$$

$$C = \frac{19}{7} \times \frac{2}{3}$$

$$D = \frac{3}{10} \times \frac{7}{10}$$

**EXERCICE 4 :**

Dans chaque cas, simplifier puis calculer :

$$M = \frac{14}{25} \times \frac{5}{7}$$

$$N = \frac{8}{27} \times \frac{45}{16}$$

$$P = \frac{16}{56} \times \frac{14}{9}$$

$$Q = \frac{32}{63} \times \frac{49}{72}$$

**EXERCICE 5 :**

Compléter :

$$\frac{17}{11} \times \frac{\dots}{\dots} = \frac{51}{110}$$

$$\frac{\dots}{\dots} \times \frac{4}{5} = \frac{36}{25}$$

$$\frac{9}{8} \times \frac{\dots}{\dots} = \frac{5}{8}$$

$$\frac{7}{\dots} \times \frac{2}{3} = \frac{7}{15}$$

**EXERCICE 6 :**

Calculer en respectant les priorités d'opérations et simplifier si possible :

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

$$B = \left( \frac{7}{5} + \frac{1}{5} \right) \times \frac{3}{2}$$

$$C = \frac{7}{5} \times \frac{3}{10} + \frac{1}{5}$$

$$D = \frac{3}{4} \times \frac{16}{9} - \frac{10}{6} \times \frac{1}{6}$$

**EXERCICE 7 :**

Calculer :

a.  $\frac{4}{7}$  de 210 g

b.  $\frac{3}{8}$  de 560 cl

c.  $\frac{15}{4}$  de 24 m

d.  $\frac{14}{3}$  de 150 m<sup>2</sup>

**EXERCICE 1 :**

$$A = \frac{31}{15} - \frac{11}{15} = \frac{31 - 11}{15} = \frac{20}{15} = \frac{5 \times 4}{3 \times 5} = \frac{4}{3}$$

$$B = \frac{16}{21} + \frac{26}{21} = \frac{16 + 26}{21} = \frac{42}{21} = \frac{21 \times 2}{21} = 2$$

$$C = 3 + \frac{20}{7} = \frac{3}{1} + \frac{20}{7} = \frac{21}{7} + \frac{20}{7} = \frac{21 + 20}{7} = \frac{41}{7}$$

$$D = 2 - \frac{5}{9} = \frac{2}{1} - \frac{5}{9} = \frac{18}{9} - \frac{5}{9} = \frac{18 - 5}{9} = \frac{13}{9}$$

$$E = \frac{3}{10} + \frac{63}{100} = \frac{30}{100} + \frac{63}{100} = \frac{30 + 63}{100} = \frac{93}{100}$$

$$F = \frac{22}{15} - \frac{4}{3} = \frac{22}{15} - \frac{20}{15} = \frac{22 - 20}{15} = \frac{2}{15}$$

$$G = \frac{25}{3} - \frac{64}{12} = \frac{100}{12} - \frac{64}{12} = \frac{100 - 64}{12} = \frac{36}{12} = \frac{12 \times 3}{12} = 3$$

$$H = \frac{26}{21} + \frac{3}{7} = \frac{26}{21} + \frac{9}{21} = \frac{26 + 9}{21} = \frac{35}{21} = \frac{7 \times 5}{7 \times 3} = \frac{5}{3}$$

**EXERCICE 2 :**

$$\frac{9}{13} + \frac{2}{13} = \frac{11}{13} \quad \frac{24}{23} - \frac{9}{23} = \frac{15}{23} \quad \frac{15}{4} - \frac{23}{8} = \frac{7}{8} \quad \frac{9}{9} + \frac{7}{3} = \frac{23}{9}$$

**EXERCICE 3 :**

$$A = \frac{3}{23} \times \frac{11}{2} = \frac{3 \times 11}{23 \times 2} = \frac{33}{46} \quad B = \frac{9}{11} \times \frac{5}{7} = \frac{9 \times 5}{11 \times 7} = \frac{45}{77}$$

$$C = \frac{19}{7} \times \frac{2}{3} = \frac{19 \times 2}{7 \times 3} = \frac{38}{21} \quad D = \frac{3}{10} \times \frac{7}{10} = \frac{3 \times 7}{10 \times 10} = \frac{21}{100}$$

**EXERCICE 4 :**

$$M = \frac{14}{25} \times \frac{5}{7} = \frac{7 \times 2 \times 5}{5 \times 5 \times 7} = \frac{2}{5} \quad N = \frac{8}{27} \times \frac{45}{16} = \frac{8 \times 9 \times 5}{9 \times 3 \times 8 \times 2} = \frac{5}{6}$$

$$P = \frac{16}{56} \times \frac{14}{9} = \frac{8 \times 2 \times 7 \times 2}{8 \times 7 \times 9} = \frac{4}{9} \quad Q = \frac{32}{63} \times \frac{49}{72} = \frac{8 \times 4 \times 7 \times 7}{9 \times 7 \times 9 \times 8} = \frac{28}{81}$$

**EXERCICE 5 :**

$$\frac{17}{11} \times \frac{3}{10} = \frac{51}{110} \quad \frac{9}{5} \times \frac{4}{5} = \frac{36}{25} \quad \frac{9}{8} \times \frac{5}{9} = \frac{5}{8} \quad \frac{7}{10} \times \frac{2}{3} = \frac{7}{15}$$

**EXERCICE 6 :**

$$A = \frac{7}{5} + \frac{1}{5} \times \frac{3}{2} = \frac{7}{5} + \frac{3}{10} = \frac{14}{10} + \frac{3}{10} = \frac{17}{10}$$

$$B = \left(\frac{7}{5} + \frac{1}{5}\right) \times \frac{3}{2} = \frac{8}{5} \times \frac{3}{2} = \frac{2 \times 4 \times 3}{5 \times 2} = \frac{12}{5}$$

$$C = \frac{7}{5} \times \frac{3}{10} + \frac{1}{5} = \frac{21}{50} + \frac{1}{5} = \frac{21}{50} + \frac{10}{50} = \frac{31}{50}$$

$$D = \frac{3}{4} \times \frac{16}{9} - \frac{10}{6} \times \frac{1}{6} = \frac{48}{36} - \frac{10}{36} = \frac{38}{36} = \frac{2 \times 19}{2 \times 18} = \frac{19}{18}$$

**EXERCICE 7 :**

$$a. \frac{4}{7} \text{ de } 210 \text{ g} = \frac{4}{7} \times 210 = \frac{4}{7} \times \frac{210}{1} = \frac{4 \times 7 \times 30}{7 \times 1} = \frac{120}{1} = \mathbf{120 \text{ g}}$$

$$b. \frac{3}{8} \text{ de } 560 \text{ cl} = \frac{3}{8} \times 560 = \frac{3}{8} \times \frac{560}{1} = \frac{3 \times 8 \times 70}{8 \times 1} = \frac{210}{1} = \mathbf{210 \text{ cl}}$$

$$c. \frac{15}{4} \text{ de } 24 \text{ m} = \frac{15}{4} \times 24 = \frac{15}{4} \times \frac{24}{1} = \frac{15 \times 4 \times 6}{4 \times 1} = \frac{90}{1} = \mathbf{90 \text{ m}}$$

$$d. \frac{14}{3} \text{ de } 150 \text{ m}^2 = \frac{14}{3} \times 150 = \frac{14}{3} \times \frac{150}{1} = \frac{14 \times 3 \times 50}{3 \times 1} = \frac{700}{1} = \mathbf{700 \text{ m}^2}$$