# Diviser par une fraction

Diviser par une fraction, c'est multiplier **par son inverse**.

Exemples avec des calculs simples :

$$A = \frac{3}{4} \div \frac{5}{7}$$
$$A = \frac{3}{4} \times \frac{7}{5}$$
$$A = \frac{3 \times 7}{4 \times 5}$$
$$A = \frac{21}{20}$$

$$B = 5 \div \frac{9}{2}$$
$$B = 5 \times \frac{2}{9}$$
$$B = \frac{5 \times 2}{9}$$
$$B = \frac{10}{9}$$

$$C = \frac{7}{6} \div 4$$
$$C = \frac{7}{6} \times \frac{1}{4}$$
$$C = \frac{7 \times 1}{6 \times 4}$$
$$C = \frac{7}{24}$$

$$D = \frac{\frac{4}{5}}{\frac{3}{11}}$$
$$D = \frac{4}{5} \div \frac{3}{11}$$
$$D = \frac{4}{5} \times \frac{11}{3}$$
$$D = \frac{4 \times 11}{5 \times 3}$$
$$D = \frac{44}{15}$$

$$E = \frac{13}{\frac{2}{3}}$$
$$E = 13 \div \frac{2}{3}$$
$$E = 13 \times \frac{3}{2}$$
$$E = \frac{13 \times 3}{2}$$
$$E = \frac{39}{2}$$

$$F = \frac{\frac{9}{8}}{5}$$
$$F = \frac{9}{8} \div 5$$
$$F = \frac{9}{8} \times \frac{1}{5}$$
$$F = \frac{9 \times 1}{8 \times 5}$$
$$F = \frac{9}{40}$$

Exemples avec des nombres à simplifier (on le fait toujours au niveau des multiplications) :

$$G = \frac{12}{25} \div \frac{16}{20}$$
$$G = \frac{12}{25} \times \frac{20}{16}$$
$$G = \frac{12 \times 20}{25 \times 16}$$
$$G = \frac{\cancel{4} \times 3 \times \cancel{5} \times \cancel{4}}{\cancel{5} \times 5 \times \cancel{4} \times \cancel{4}}$$
$$G = \frac{3}{5}$$

$$H = \frac{144}{\frac{72}{5}}$$
$$H = 144 \div \frac{72}{5}$$
$$H = 144 \times \frac{5}{72}$$
$$H = \frac{144 \times 5}{72}$$
$$H = \frac{\cancel{12} \times \cancel{6} \times 2 \times 5}{\cancel{12} \times \cancel{6}}$$
$$H = \frac{2 \times 5}{1}$$
$$H = 10$$