

Savoir N. 5 : Opérations et priorités sur les fractions

Effectue les calculs suivants, en donnant les étapes intermédiaires, et le résultat sous sa forme irréductible.

Entraînement n°1

$$I = \left(\frac{2}{3} - \frac{3}{2} \right) \times \left(1 + \frac{7}{6} \right)$$

$$J = \frac{4}{5} \times \frac{3}{7} + \frac{4}{5} \div \frac{3}{7}$$

$$K = \frac{4}{7} + \frac{2}{7} \times \frac{14}{18}$$

$$L = \frac{\frac{4}{5}}{\frac{9}{10}} - \frac{7}{4}$$

Entraînement n°2

$$D = \frac{4}{5} - \frac{3}{5} \times \frac{2}{9}$$

$$B = \frac{2}{5} \div 6 - \frac{4}{3}$$

$$C = \left(2 - \frac{1}{3} \right) \times \left(\frac{3}{2} - 5 \right)$$

$$E = \frac{\frac{4}{7}}{3 + \frac{5}{2}}$$

Entraînement n°3

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

$$B = \frac{7}{2} - \frac{5}{4} \div \frac{15}{7}$$

$$C = 2 \times \frac{7}{6} - \frac{20}{18}$$

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

Entraînement n°4

$$E = \frac{9}{5} \div \left(\frac{2}{11} - \frac{5}{4} \right)$$

$$F = \frac{8}{3} \times 6 - \frac{2}{10}$$

$$G = \frac{7}{8} - \frac{3}{8} \times \frac{7}{9}$$

$$H = \frac{2 - \frac{4}{3}}{\frac{7}{6} - 3}$$

Correction Savoir N. 5

Corrigé Entraînement n°1

$$I = \left(\frac{2}{3} - \frac{3}{2}\right) \times \left(1 + \frac{7}{6}\right)$$

$$I = \left(\frac{4}{6} - \frac{9}{6}\right) \times \left(\frac{6}{6} + \frac{7}{6}\right)$$

$$I = \left(-\frac{5}{6}\right) \times \frac{13}{6}$$

$$I = -\frac{65}{36}$$

$$J = \frac{4}{5} \times \frac{3}{7} + \frac{4}{5} \div \frac{3}{7}$$

$$J = \frac{12}{35} + \frac{4}{5} \times \frac{7}{3}$$

$$J = \frac{12}{35} + \frac{28}{15}$$

$$J = \frac{180}{525} + \frac{980}{525}$$

$$J = \frac{1160}{525} = \frac{232}{105}$$

$$K = \frac{4}{7} + \frac{2}{7} \times \frac{14}{18}$$

$$K = \frac{4}{7} + \frac{2}{7} \times \frac{2 \times 7}{2 \times 9}$$

$$K = \frac{4}{7} + \frac{2}{9}$$

$$K = \frac{36}{63} + \frac{14}{63}$$

$$K = \frac{50}{63}$$

$$L = \frac{\frac{4}{5}}{\frac{9}{10}} - \frac{7}{4}$$

$$L = \frac{4}{5} \times \frac{10}{9} - \frac{7}{4}$$

$$L = \frac{40}{45} - \frac{7}{4}$$

$$L = \frac{8}{9} - \frac{7}{4}$$

$$L = \frac{32}{36} - \frac{63}{36} = -\frac{31}{36}$$

Corrigé Entraînement n°2

$$D = \frac{4}{5} - \frac{3}{5} \times \frac{2}{9}$$

$$D = \frac{4}{5} - \frac{6}{45}$$

$$D = \frac{36}{45} - \frac{6}{45}$$

$$D = \frac{30}{45} = \frac{2}{3}$$

$$B = \frac{2}{5} \div 6 - \frac{4}{3}$$

$$B = \frac{2}{5} \times \frac{1}{6} - \frac{4}{3}$$

$$B = \frac{2}{30} - \frac{4}{3}$$

$$B = \frac{2}{30} - \frac{40}{30}$$

$$B = -\frac{38}{30} = -\frac{19}{15}$$

$$C = \left(2 - \frac{1}{3}\right) \times \left(\frac{3}{2} - 5\right)$$

$$C = \left(\frac{6}{3} - \frac{1}{3}\right) \times \left(\frac{3}{2} - \frac{10}{2}\right)$$

$$C = \frac{5}{3} \times \left(-\frac{7}{2}\right)$$

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

$$E = \frac{4}{7} \div \left(\frac{3}{1} + \frac{5}{2}\right)$$

$$E = \frac{4}{7} \div \left(\frac{6}{2} + \frac{5}{2}\right)$$

$$E = \frac{4}{7} \div \frac{11}{2}$$

$$E = \frac{4}{7} \times \frac{2}{11}$$

$$E = \frac{8}{77}$$

Corrigé Entraînement n°3

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

$$A = \frac{2}{5} - \frac{24}{15}$$

$$A = \frac{6}{15} - \frac{24}{15}$$

$$A = -\frac{18}{15} = -\frac{6}{5}$$

$$B = \frac{7}{2} - \frac{5}{4} \div \frac{15}{7}$$

$$B = \frac{7}{2} - \frac{5}{4} \times \frac{7}{15}$$

$$B = \frac{7}{2} - \frac{35}{60}$$

$$B = \frac{210}{60} - \frac{35}{60} = \frac{175}{60} = \frac{35}{12}$$

$$C = 2 \times \frac{7}{6} - \frac{20}{18}$$

$$C = \frac{14}{6} - \frac{20}{18}$$

$$C = \frac{42}{18} - \frac{20}{18}$$

$$C = \frac{22}{18} = \frac{11}{9}$$

$$D = \frac{\frac{3}{4} - \frac{4}{5}}{\frac{15}{20} - \frac{16}{20}} = \frac{\frac{3}{2} - \frac{4}{5}}{\frac{3}{2}}$$

$$D = -\frac{1}{20} \div \frac{3}{2}$$

$$D = -\frac{1}{20} \times \frac{2}{3} = -\frac{2}{60} = -\frac{1}{30}$$

Corrigé Entraînement n°4

$$E = \frac{9}{5} \div \left(\frac{2}{11} - \frac{5}{4}\right)$$

$$E = \frac{9}{5} \div \left(\frac{8}{44} - \frac{55}{44}\right)$$

$$E = \frac{9}{5} \div \left(-\frac{47}{44}\right)$$

$$E = \frac{9}{5} \times \left(-\frac{44}{47}\right)$$

$$E = -\frac{396}{235} \text{ Fraction irréductible}$$

$$F = \frac{8}{3} \times 6 - \frac{2}{10}$$

$$F = \frac{48}{3} - \frac{2}{10}$$

$$F = \frac{480}{30} - \frac{6}{30}$$

$$F = \frac{474}{30}$$

$$F = \frac{79}{5}$$

$$G = \frac{7}{8} - \frac{3}{8} \times \frac{7}{9}$$

$$G = \frac{7}{8} - \frac{21}{72}$$

$$G = \frac{63}{72} - \frac{21}{72}$$

$$G = \frac{42}{72} = \frac{7}{12}$$

$$H = \frac{2 - \frac{4}{3}}{\frac{7}{6} - 3} = \frac{\frac{6}{3} - \frac{4}{3}}{\frac{7}{6} - \frac{18}{6}}$$

$$H = \frac{2}{3} \div \left(-\frac{11}{6}\right)$$

$$H = \frac{2}{3} \times \left(-\frac{6}{11}\right)$$

$$H = -\frac{12}{33} = -\frac{4}{11}$$