

## Chapitre 1

# Auto entraînement

### Exercice n° 1

Calculer en détaillant les étapes. Donner le résultat sous la forme d'une fraction la plus simple possible (ou d'un entier lorsque c'est possible).

1.  $B = \frac{2}{10} + 7$

3.  $D = 6 - \frac{5}{6}$

5.  $F = \frac{4}{21} + \frac{1}{3}$

7.  $H = \frac{1}{4} + 1$

2.  $C = \frac{9}{3} + 1$

4.  $E = \frac{6}{9} - \frac{2}{9}$

6.  $G = \frac{2}{63} + \frac{4}{7}$

8.  $I = \frac{6}{81} - \frac{6}{9}$

Source : Pyromaths

### Exercice n° 2

Calculer en détaillant les étapes. Donner le résultat sous la forme d'une fraction la plus simple possible (ou d'un entier lorsque c'est possible).

1.  $A = 9 - \frac{2}{10}$

3.  $C = \frac{4}{10} + \frac{9}{10}$

5.  $E = \frac{7}{3} - 1$

7.  $G = \frac{10}{21} - \frac{4}{7}$

2.  $B = 1 - \frac{4}{9}$

4.  $D = \frac{10}{16} + \frac{1}{4}$

6.  $F = \frac{4}{3} - \frac{2}{6}$

8.  $H = \frac{1}{8} + 4$

Source : Pyromaths

### Exercice n° 3

Calculer en détaillant les étapes. Donner le résultat sous la forme d'une fraction la plus simple possible (ou d'un entier lorsque c'est possible).

1.  $A = \frac{8}{54} + \frac{7}{9}$

3.  $C = \frac{3}{6} + \frac{4}{9}$

5.  $E = \frac{8}{3} + \frac{10}{3}$

7.  $G = \frac{3}{10} + 1$

2.  $B = \frac{6}{7} + \frac{3}{5}$

4.  $D = \frac{10}{10} + 7,5$

6.  $F = \frac{3}{6} + \frac{5}{7}$

8.  $H = \frac{8}{8} + 8$

Source : Pyromaths

### Exercice n° 4

Calculer en détaillant les étapes. Donner le résultat sous la forme d'une fraction la plus simple possible (ou d'un entier lorsque c'est possible).

1.  $A = \frac{10}{7} - \frac{2}{28}$

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

5.  $E = \frac{10}{5} + \frac{1}{9}$

7.  $G = \frac{3}{2} - \frac{1}{5}$

2.  $B = \frac{7}{7} - 1$

4.  $D = 5,8 - \frac{1}{5}$

6.  $F = \frac{6}{8} - \frac{3}{8}$

8.  $H = \frac{8}{9} + \frac{9}{7}$

Source : Pyromaths

**Exercice n° 5**

Calculer les expressions suivantes et donner le résultat sous la forme d'une fraction irréductible.

$$A = \frac{5}{2} \times \left( \frac{8}{3} + \frac{10}{13} \right)$$

$$B = \frac{\frac{-4}{5} + 2}{\frac{9}{5} + 9}$$

$$C = \frac{5}{2} + \frac{-15}{14} \times \frac{-7}{25}$$

Source : Pyromaths

**Exercice n° 6**

Calculer les expressions suivantes et donner le résultat sous la forme d'une fraction irréductible.

$$A = \frac{\frac{9}{4} + 4}{\frac{9}{7} - 6}$$

$$B = \frac{-7}{6} \div \left( \frac{5}{8} - \frac{9}{7} \right)$$

$$C = \frac{-24}{11} - \frac{-15}{11} \times \frac{-11}{54}$$

Source : Pyromaths

## Chapitre 1

## Correction

## Correction de l'exercice n° 1

1.  $A = \frac{2}{10} + 7$

$$A = \frac{2}{10} + \frac{7 \times 10}{1 \times 10}$$

$$A = \frac{2}{10} + \frac{70}{10}$$

$$A = \frac{72}{10}$$

$$A = \frac{36 \times 2}{5 \times 2}$$

$$A = \frac{36}{5}$$

2.  $B = \frac{9}{3} + 1$

$$B = \frac{9}{3} + \frac{1 \times 3}{1 \times 3}$$

$$B = \frac{9}{3} + \frac{3}{3}$$

$$B = \frac{12}{3}$$

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

$$B = 4$$

3.  $C = 6 - \frac{5}{6}$

$$C = \frac{6 \times 6}{1 \times 6} - \frac{5}{6}$$

$$C = \frac{36}{6} - \frac{5}{6}$$

$$C = \frac{31}{6}$$

4.  $D = \frac{6}{9} - \frac{2}{9}$

$$D = \frac{4}{9}$$

5.  $E = \frac{4}{21} + \frac{1}{3}$

$$E = \frac{4}{21} + \frac{1 \times 7}{3 \times 7}$$

$$E = \frac{4}{21} + \frac{7}{21}$$

$$E = \frac{11}{21}$$

6.  $F = \frac{2}{63} + \frac{4}{7}$

$$F = \frac{2}{63} + \frac{4 \times 9}{7 \times 9}$$

$$F = \frac{2}{63} + \frac{36}{63}$$

$$F = \frac{38}{63}$$

7.  $G = \frac{1}{4} + 1$

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

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

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

8.  $H = \frac{6}{81} - \frac{6}{9}$

$$H = \frac{6}{81} - \frac{6 \times 9}{9 \times 9}$$

$$H = \frac{6}{81} - \frac{54}{81}$$

$$H = \frac{-48}{81}$$

$$H = \frac{-16 \times 3}{27 \times 3}$$

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

## Correction de l'exercice n° 2

$$1. A = 9 - \frac{2}{10}$$

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

$$A = \frac{90}{10} - \frac{2}{10}$$

$$A = \frac{88}{10}$$

$$A = \frac{44 \times 2}{5 \times 2}$$

$$A = \frac{44}{5}$$

$$2. B = 1 - \frac{4}{9}$$

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

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

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

$$3. C = \frac{4}{10} + \frac{9}{10}$$

$$C = \frac{13}{10}$$

$$4. D = \frac{10}{16} + \frac{1}{4}$$

$$D = \frac{10}{16} + \frac{1 \times 4}{4 \times 4}$$

$$D = \frac{10}{16} + \frac{4}{16}$$

$$D = \frac{14}{16}$$

$$D = \frac{7 \times 2}{8 \times 2}$$

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

$$5. E = \frac{7}{3} - 1$$

$$E = \frac{7}{3} - \frac{1 \times 3}{1 \times 3}$$

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

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

$$6. F = \frac{4}{3} - \frac{2}{6}$$

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

$$F = \frac{8}{6} - \frac{2}{6}$$

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

$$F = 1$$

$$7. G = \frac{10}{21} - \frac{4}{7}$$

$$G = \frac{10}{21} - \frac{4 \times 3}{7 \times 3}$$

$$G = \frac{10}{21} - \frac{12}{21}$$

$$G = \frac{-2}{21}$$

$$8. H = \frac{1}{8} + 4$$

$$H = \frac{1}{8} + \frac{4 \times 8}{1 \times 8}$$

$$H = \frac{1}{8} + \frac{32}{8}$$

$$H = \frac{33}{8}$$

## Correction de l'exercice n° 3

$$1. A = \frac{8}{54} + \frac{7}{9}$$

$$A = \frac{8}{54} + \frac{7 \times 6}{9 \times 6}$$

$$A = \frac{8}{54} + \frac{42}{54}$$

$$A = \frac{50}{54}$$

$$A = \frac{25 \times 2}{27 \times 2}$$

$$A = \frac{25}{27}$$

$$2. B = \frac{6}{7} + \frac{3}{5}$$

$$B = \frac{6 \times 5}{7 \times 5} + \frac{3 \times 7}{5 \times 7}$$

$$B = \frac{30}{35} + \frac{21}{35}$$

$$B = \frac{51}{35}$$

$$3. C = \frac{3}{6} + \frac{4}{9}$$

$$C = \frac{3 \times 3}{6 \times 3} + \frac{4 \times 2}{9 \times 2}$$

$$C = \frac{9}{18} + \frac{8}{18}$$

$$C = \frac{17}{18}$$

$$4. D = \frac{10}{10} + 7,5$$

$$D = \frac{85}{10}$$

$$D = \frac{17 \times 5}{2 \times 5}$$

$$D = \frac{17}{2}$$

$$5. E = \frac{8}{3} + \frac{10}{3}$$

$$E = \frac{18}{3}$$

$$E = \frac{6 \times 3}{1 \times 3}$$

$$E = 6$$

$$6. F = \frac{3}{6} + \frac{5}{7}$$

$$F = \frac{3 \times 7}{6 \times 7} + \frac{5 \times 6}{7 \times 6}$$

$$F = \frac{21}{42} + \frac{30}{42}$$

$$F = \frac{51}{42}$$

$$F = \frac{17 \times 3}{14 \times 3}$$

$$F = \frac{17}{14}$$

$$7. G = \frac{3}{10} + 1$$

$$G = \frac{3}{10} + \frac{1 \times 10}{1 \times 10}$$

$$G = \frac{3}{10} + \frac{10}{10}$$

$$G = \frac{13}{10}$$

$$8. H = \frac{8}{8} + 8$$

$$H = \frac{8}{8} + \frac{8 \times 8}{1 \times 8}$$

$$H = \frac{8}{8} + \frac{64}{8}$$

$$H = \frac{72}{8}$$

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

$$H = 9$$

## Correction de l'exercice n° 4

$$1. A = \frac{10}{7} - \frac{2}{28}$$

$$A = \frac{10 \times 4}{7 \times 4} - \frac{2}{28}$$

$$A = \frac{40}{28} - \frac{2}{28}$$

$$A = \frac{38}{28}$$

$$A = \frac{19 \times 2}{14 \times 2}$$

$$A = \frac{19}{14}$$

$$2. B = \frac{7}{7} - 1$$

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

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

$$B = 0$$

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

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

$$C = \frac{7}{5} + \frac{50}{5}$$

$$C = \frac{57}{5}$$

$$4. D = 5,8 - \frac{1}{5}$$

$$D = \frac{58}{10} - \frac{1 \times 2}{5 \times 2}$$

$$D = \frac{58}{10} - \frac{2}{10}$$

$$D = \frac{56}{10}$$

$$D = \frac{28 \times 2}{5 \times 2}$$

$$D = \frac{28}{5}$$

$$5. E = \frac{10}{5} + \frac{1}{9}$$

$$E = \frac{10 \times 9}{5 \times 9} + \frac{1 \times 5}{9 \times 5}$$

$$E = \frac{90}{45} + \frac{5}{45}$$

$$E = \frac{95}{45}$$

$$E = \frac{19 \times 5}{9 \times 5}$$

$$E = \frac{19}{9}$$

$$6. F = \frac{6}{8} - \frac{3}{8}$$

$$F = \frac{3}{8}$$

$$7. G = \frac{3}{2} - \frac{1}{5}$$

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

$$G = \frac{15}{10} - \frac{2}{10}$$

$$G = \frac{13}{10}$$

$$8. H = \frac{8}{9} + \frac{9}{7}$$

$$H = \frac{8 \times 7}{9 \times 7} + \frac{9 \times 9}{7 \times 9}$$

$$H = \frac{56}{63} + \frac{81}{63}$$

$$H = \frac{137}{63}$$

## Correction de l'exercice n° 5

$$A = \frac{5}{2} \times \left( \frac{8}{3} + \frac{10}{13} \right)$$

$$A = \frac{5}{2} \times \left( \frac{8 \times 13}{3 \times 13} + \frac{10 \times 3}{13 \times 3} \right)$$

$$A = \frac{5}{2} \times \left( \frac{104}{39} + \frac{30}{39} \right)$$

$$A = \frac{5}{2} \times \frac{134}{39}$$

$$A = \frac{5}{1 \times 2} \times \frac{67 \times 2}{39}$$

$$A = \frac{335}{39}$$

$$B = \frac{-4}{5} + 2$$

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

$$B = \frac{-4}{5} + \frac{10}{5}$$

$$B = \frac{-4}{5} + \frac{10}{5}$$

$$B = \frac{6}{5} \div \frac{54}{5}$$

$$B = \frac{6}{5} \times \frac{5}{54}$$

$$B = \frac{1 \times 6}{1 \times 5} \times \frac{1 \times 5}{9 \times 6}$$

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

$$C = \frac{5}{2} + \frac{-15}{14} \times \frac{-7}{25}$$

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

$$C = \frac{5}{2} + \frac{3}{10}$$

$$C = \frac{5 \times 5}{2 \times 5} + \frac{3}{10}$$

$$C = \frac{25}{10} + \frac{3}{10}$$

$$C = \frac{28}{10}$$

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

## Correction de l'exercice n° 6

$$A = \frac{\frac{9}{4} + 4}{\frac{9}{7} - 6}$$

$$A = \frac{\frac{9}{4} + \frac{4 \times 4}{1 \times 4}}{\frac{9}{7} - \frac{6 \times 7}{1 \times 7}}$$

$$A = \frac{\frac{9}{4} + \frac{16}{4}}{\frac{9}{7} - \frac{42}{7}}$$

$$A = \frac{25}{4} \div \frac{-33}{7}$$

$$A = \frac{25}{4} \times \frac{-7}{33}$$

$$A = \frac{25}{-4 \times \cancel{1}} \times \frac{7 \times \cancel{1}}{33}$$

$$A = \frac{-175}{132}$$

$$B = \frac{-7}{6} \div \left( \frac{5}{8} - \frac{9}{7} \right)$$

$$B = \frac{-7}{6} \div \left( \frac{5 \times 7}{8 \times 7} - \frac{9 \times 8}{7 \times 8} \right)$$

$$B = \frac{-7}{6} \div \left( \frac{35}{56} - \frac{72}{56} \right)$$

$$B = \frac{-7}{6} \div \frac{-37}{56}$$

$$B = \frac{-7}{6} \times \frac{-56}{37}$$

$$B = \frac{-7}{-3 \times \cancel{2}} \times \frac{28 \times \cancel{2}}{37}$$

$$B = \frac{196}{111}$$

$$C = \frac{-24}{11} - \frac{-15}{11} \times \frac{-11}{54}$$

$$C = \frac{-24}{11} - \frac{-5 \times \cancel{3}}{-1 \times \cancel{11}} \times \frac{1 \times \cancel{11}}{18 \times \cancel{3}}$$

$$C = \frac{-24}{11} - \frac{5}{18}$$

$$C = \frac{-24 \times 18}{11 \times 18} - \frac{5 \times 11}{18 \times 11}$$

$$C = \frac{-432}{198} - \frac{55}{198}$$

$$C = \frac{-487}{198}$$