

Calculs numériques

Exercice 1.

$$A = \{1; 2; 3; 4; 5; 6; 7; 8\}$$

Exercice 2.

a)

$$\begin{array}{r} 100 \cdot 2,8\bar{5} = 285,\bar{5} \\ (-10) \cdot 2,8\bar{5} = -28,\bar{5} \\ \hline 90 \cdot 2,8\bar{5} = 257 \end{array}$$

$$\Rightarrow 2,8\bar{5} = \frac{257}{90}$$

b)

$$\begin{array}{r} 100 \cdot 3,\bar{15} = 315,\bar{15} \\ (-1) \cdot 3,\bar{15} = -3,\bar{15} \\ \hline 99 \cdot 3,\bar{15} = 312 \end{array}$$

$$\Rightarrow 3,\bar{15} = \frac{312}{99} = \frac{104}{33}$$

Exercice 3.

$$\text{a) } \frac{6}{46} \cdot \overbrace{\left(\frac{2}{3} + \frac{5}{4}\right)}^{\frac{23}{12}} = \frac{6^1}{46_2} \cdot \frac{23^1}{12_2} = \frac{1}{4}$$

$$\text{b) } \frac{8}{3} \div \overbrace{\left(\frac{88^8}{25_5} \cdot \frac{35^7}{33_3}\right)}^{\frac{56}{15}} - \overbrace{\left(\frac{11}{7} - \frac{4}{3}\right)}^{\frac{5}{21}} = \overbrace{\frac{8^1}{3_1} \cdot \frac{15^5}{56_7}}^{\frac{5}{7}} - \frac{5}{21} = \frac{5}{7} - \frac{5}{21} = \frac{10}{21}$$

$$\text{c) } \overbrace{[(-4+3) \cdot (-7)]}^{-1} - 5 \cdot \underbrace{\left(7 + \overbrace{[10 \div (-2)]}^{-5}\right)}_2 = 7 - \overbrace{5 \cdot 2}^{10} = -3$$

$$\text{d) } 5 - \frac{2}{\underbrace{1 + \frac{3}{4}}_{\frac{7}{4}}} = 5 - \frac{8}{7} = \frac{27}{7}$$

Exercice 4.

a) vitesse (aller) = $2 \cdot 4 = 8$ km/h

b) temps du retour = $20 \text{ min} = \frac{1}{3} \text{ h} \Rightarrow$ vitesse (retour) = $2 \cdot 3 = 6$ km/h

c) temps total = $\frac{1}{4} + \frac{1}{3} = \frac{7}{12} \text{ h} \Rightarrow$ vitesse = $4 \div \frac{7}{12} = 4 \cdot \frac{12}{7} = \frac{48}{7}$ km/h