

Chpt.1 – Calcul littéral et numérique
Exercices supplémentaires – Solutions

Ex. 1

$$a) \frac{(-3)^4}{(-3)^7} = -\frac{1}{27}$$

$$b) \frac{2^{2023} \times (3^2)^{1010}}{(2 \times 3)^{2021}} = \frac{4}{3}$$

$$c) \left(\frac{2023}{2022}\right)^{58} \times \left(\frac{2022}{-2023}\right)^{57} = -\frac{2023}{2022}$$

$$d) \frac{(a^2 \times b)^3 \times b^{-2} \times c^3}{a^2 \times c \times (b \times c^2)^2} = \frac{a^4}{b \times c^2}$$

$$e) \left(\frac{4}{5}\right)^3 \times \left(\frac{5}{2}\right)^4 = 20$$

$$f) \frac{9^{-5}}{((-3)^3)^2 \times (27^{-2})^2} = \frac{1}{81}$$

Ex. 2

$$a) A(x) = (2x + 3)(24x - 19)$$

$$b) B(x) = (4x - 3)(-16x - 17)$$

$$c) C(x) = (5x + 8)(-4x - 16)$$

$$d) D(x) = (5x + 8)(11x - 35)$$

$$e) E(x) = (x + 3)(3x + 1)$$

$$f) F(x) = (x - 3)(3x + 4)$$

$$g) G(x) = (4x - 7)(9x - 8)$$

$$h) H(x) = (3x - 8)(-x + 2)$$

$$i) I(x) = (2x - 1)(x - 4)$$

$$j) J(x) = (2x - 3)(4x - 1)$$

Ex. 3

$$a) \mathcal{S} = \left\{\frac{3}{2}\right\}$$

$$b) \mathcal{S} = \{-2\}$$

$$c) \mathcal{S} = \left\{-\frac{1}{10}\right\}$$

d) $\mathcal{S} = \{20\}$

e) $\mathcal{S} = \{10\}$

f) $\mathcal{S} = \left\{\frac{3}{2}\right\}$

g) $\mathcal{S} = \{8\}$

h) $\mathcal{S} = \{7\}$

i) $\mathcal{S} = \left\{\frac{1}{11}\right\}$

j) $\mathcal{S} = \{11\}$

Ex. 4

a) $\mathcal{S} = \left\{-\frac{5}{2}; 3; \frac{7}{4}\right\}$

b) $\mathcal{S} = \left\{-\frac{9}{5}; -2; 3\right\}$

c) $\mathcal{S} = \left\{\frac{7}{3}; -\frac{11}{9}; -7; 0\right\}$

d) $\mathcal{S} = \left\{0; -\frac{11}{3}\right\}$

e) $\mathcal{S} = \{-3; 1\}$

f) $\mathcal{S} = \{-5; 6\}$

g) $\mathcal{S} = \left\{-\frac{5}{2}; -1; 1\right\}$