

Exercice N°1

$$A = \frac{3}{7} - \frac{5}{3} \times \frac{4}{35} = \frac{3}{7} - \frac{4}{3 \times 7} = \frac{3+3}{3 \times 7} - \frac{4}{3 \times 7} = \frac{9-4}{3 \times 7} = \frac{5}{21}$$

$$B = \frac{(2 - 4/3)}{\left(\frac{5}{12} - \frac{8}{3}\right)} = \frac{\frac{2 \times 3 - 4}{3}}{\frac{5 - 8 \times 4}{12}} = \frac{\frac{2}{3}}{\frac{-27}{12}} = \frac{2 \times 12}{-3 \times 27} = \frac{24}{-81} = \frac{8}{-27} = \underline{\underline{-\frac{8}{27}}}$$

$$C = \left(\frac{2}{3}\right)^2 - (3)^{-1} = \frac{4}{9} - \frac{1}{3} = \frac{4}{9} - \frac{3}{9} = \underline{\underline{\frac{1}{9}}}$$

Exercice 2

$$a = 0,000\ 000\ 000\ 47 = 47 \times 10^{-11} = \underline{\underline{4,7 \times 10^{-10}}}$$

$$b = 68\ 000\ 000\ 000 = 68 \times 10^9 = \underline{\underline{6,8 \times 10^{10}}}$$

$$C = \frac{7,5 \times 10^3 + 3 \times 10^{-14}}{2 \times (10^3)^{-10}} = \frac{7,5 + 3 \times 10^{-11}}{2 \times 10^{-20}} = \frac{7,5 + 3}{2} \times 10^{19} = \underline{\underline{11,25 \times 10^{19}}}$$

$$= \underline{\underline{1,125 \times 10^{20}}}$$

Exercice 3

$$P = (2x-3)^2 - (2x-3)(3x-5)$$

$$\textcircled{1} P = 4x^2 + 9 - 12x - 6x^2 + 10x + 9x - 15$$

$$= \underline{\underline{-2x^2 + 7x - 6}}$$

$$\textcircled{2} P = (2x-3) \left((2x-3) - (3x-5) \right) = (2x-3) (2x-3 - 3x+5)$$

$$= \underline{\underline{(2x-3)(-x+2)}}$$

$$\textcircled{3} P=0 \Leftrightarrow (2x-3)(-x+2) = 0 \Leftrightarrow 2x-3=0 \text{ ou } -x+2=0$$

$$\Leftrightarrow \underline{\underline{x=3/2}} \text{ ou } \underline{\underline{x=2}}$$

$$\textcircled{4} x = -1/3 \Rightarrow P = \left(-\frac{2}{3} - 3\right) \left(\frac{1}{3} + 2\right) = \left(-\frac{2+9}{3}\right) \times \left(\frac{1+6}{3}\right) = \frac{-11}{3} \times \frac{7}{3} = \underline{\underline{-\frac{77}{9}}}$$

Exercice 4

$$\textcircled{1} P = (x-3)^2 - (2x+1)^2 = (x-3+2x+1)(x-3-2x-1) = \underline{\underline{(3x-2)(-x-4)}}$$

$$S = (x-4)^2 - 25 = (x-4-5)(x-4+5) = \underline{\underline{(x-9)(x+1)}}$$