**NOM :**

# INTERRO DE COURS – SEMAINE 2

**Exercice 1 –** Donner l'écriture des nombres suivants sous la forme d'un entier ou d'une fraction irréductible.

1. $A = \dfrac{2}{3} + \dfrac{1}{4} - \dfrac{1}{2}$

**Solution :**

$$A = \frac{2}{3} + \frac{1}{4} - \frac{1}{2} = \frac{8}{12} + \frac{3}{12} - \frac{6}{12} = \frac{5}{12}$$

2. $B = 2\left(\dfrac{1}{2} - \dfrac{1}{3}\right) - \left(1 + \dfrac{1}{5}\right)$

**Solution :**

$$B = 2\left(\frac{1}{2} - \frac{1}{3}\right) - \left(1 + \frac{1}{5}\right) = 2\left(\frac{3}{6} - \frac{2}{6}\right) - \left(\frac{5}{5} + \frac{1}{5}\right) = 2 \times \frac{1}{6} - \frac{6}{5} = \frac{1}{3} - \frac{6}{5} = \frac{5}{15} - \frac{18}{15} = -\frac{13}{15}$$

3. $C = \left(1 - \dfrac{1}{3}\right) \times \left(-1 + \dfrac{5}{6}\right) \div \left(\dfrac{4}{5} - \dfrac{2}{3}\right)$

**Solution :**

$$C = \left(\frac{3}{3} - \frac{1}{3}\right) \times \left(-\frac{6}{6} + \frac{5}{6}\right) \div \left(\frac{12}{15} - \frac{10}{15}\right) = -\frac{2}{3} \times \frac{1}{6} \div \frac{2}{15} = -\frac{2}{3} \times \frac{1}{6} \times \frac{15}{2} = -\frac{5}{6}$$

4. $D = \dfrac{1 + \frac{1}{2} \times \frac{2}{3}}{1 - \frac{1}{3} \times \frac{3}{2}}$

**Solution :**

$$D = \frac{1 + \frac{1}{2} \times \frac{2}{3}}{1 - \frac{1}{3} \times \frac{3}{2}} = \frac{1 + \frac{1}{3}}{1 - \frac{1}{2}} = \frac{\frac{4}{3}}{\frac{1}{2}} = \frac{4}{3} \times \frac{2}{1} = \frac{8}{3}$$

**Exercice 2 –** Simplifier les nombres suivants.

1. $A = 2^3 \times 2^{-1} \times 2^4 \times 2$

**Solution :**

$$A = 2^3 \times 2^{-1} \times 2^4 \times 2 = 2^{3-1+4+1} = 2^7$$

2. $B = \dfrac{3^2 \times 3^{-4}}{3 \times 3^{-3}}$

**Solution :**

$$B = \frac{3^2 \times 3^{-4}}{3 \times 3^{-3}} = \frac{3^{2-4}}{3^{1-3}} = \frac{3^{-2}}{3^{-2}} = 3^{-2+2} = 3^0 = 1$$

3. $C = \dfrac{81^{-2} \times 3^4}{27^2 \times 9^{-1}}$

**Solution :**

$$C = \frac{\left(3^4\right)^{-2} \times 3^4}{\left(3^3\right)^2 \times \left(3^2\right)^{-1}} = \frac{3^{-8} \times 3^4}{3^6 \times 3^{-2}} = \frac{3^{-4}}{3^4} = 3^{-4-4} = 3^{-8}$$

4. $D = \dfrac{\left(2 \times 3^4\right)^{-2}}{4 \times 9}$

**Solution :**

$$D = \frac{\left(2 \times 3^4\right)^{-2}}{4 \times 9} = \frac{2^{-2} \times 3^{-8}}{2^2 \times 3^2} = 2^{-2-2} \times 3^{-8-2} = 2^{-4} \times 3^{-10}$$