



Exercice 1 (9 pts)

Calculate, and give the results in the simplest form :

$$A = \frac{7}{4} - \frac{3}{4} \times \frac{8}{9}$$

$$B = \left(1 - \frac{2}{3}\right) \div \left(1 + \frac{2}{3}\right)$$

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

$$D = \frac{5}{6} - \frac{7}{6} \times \frac{1}{14} + \frac{2}{3}$$

$$E = \frac{2^3}{3^2} \div \frac{2^4}{3}$$

$$F = \frac{7 \times (7^{-2})^{-4}}{7^{11}}$$

Exercice 2 (6 pts)

Calculate and give the result in standard form

$$A = 15 \times (10^7)^2 \times 3 \times 10^{-5}$$

$$B = 0.007 \times 10^2$$

$$C = \frac{5 \times 10^{-3} \times 12 \times 10^4}{3 \times 10 \times 2 \times 10^{-1}}$$

$$D = -17.4 \times 10^{-3}$$

Exercice 3 (2,5 pts)

1. Calculate $A = \frac{8 + 3 \times 4}{1 + 2 \times 1,5}$

2. To do it on his calculator, a pupil has entered the following sequence of keys :

8 + 3 × 4 : 1 + 2 × 1 , 5 =

Explain why he didn't get the right result.

Exercice 4 (2,5 pts)

The speed of light is roughly $300\,000 \text{ km/s}$. The distance called "light year" is the distance the light travels within one year. Work out the value of one light year expressed in km (give its standard form). *Show of course your calculations.*