Exercice 1 : Calculer

$A = -3^2 + 3\times 6\times 2^{-2} = -9 + 18 \times \frac{1}{2^2} = -9 + \frac{18}{4} = -9 + \frac{9}{2} = -\frac{18}{2} + \frac{9}{2} = \boxed{-\frac{9}{2}}$

$B = \frac{1-5^2}{(1-5)^2} = \frac{1-25}{(-4)^2} = \frac{-24}{16} = \boxed{-\frac{3}{2}}$

$C = 4 - 5^2(11-3\times 7)^4 = 4 - 25(11-21)^4 = 4 - 25\times(-10)^4 = 4 - 250000 = \boxed{-249996}$

$D = -5(2^2 - 3\times 2)^2 = -5(4-6)^2 = -5\times(-2)^2 = -5\times 4 = \boxed{-20}$

$E = 0{,}534 + 322\times 10^{-3} = 0{,}534 + 0{,}322 = \boxed{0{,}856}$

$F = 5\times 10^{-14} + 3\times 10^{-13} + 4\times 10^{-12} = 5\times 10^{-14} + 30\times 10^{-14} + 400\times 10^{-14} = \boxed{435\times 10^{-14}}$

$G = \frac{56^3\times 3^2}{27\times 49^2\times 2^8} = \frac{(7\times 8)^3\times 3^2}{3^3\times(7^2)^2\times 2^8} = \frac{7^3\times 2^9\times 3^2}{3^3\times 7^4\times 2^8} = \frac{2^9}{2^8}\times\frac{3^2}{3^3}\times\frac{7^3}{7^4} = 2\times\frac{1}{3}\times\frac{1}{7} = \boxed{\frac{2}{21}}$

$H = \frac{8^{10}+4^{10}}{8^4+4^{11}} = \frac{2^{30}+2^{20}}{2^{12}+2^{22}} = \frac{2^{20}(2^{10}+1)}{2^{12}(1+2^{10})} = 2^{20-12} = (2^8) = \boxed{256}$

$2^{12}\left(\frac{2^{12}}{2^{12}} + \frac{2^{22}}{2^{12}}\right)$

$2^{12-12} = 2^0 = 1$

$2^{22-12} = 2^{10}$

$$I = \frac{5^3 \times (-3^8) \times (-5)^2}{125 \times 5^4 \times 81 \times 7^0} = \frac{-5^3 \times 3^8 \times 5^2}{5^3 \times 5^4 \times 3^4} = -3^4 \times 5^{-2} = \boxed{-\frac{81}{25}}$$

$$J = \left(\frac{-3}{4}\right)^3 \times \left(\frac{-5}{2}\right)^{-3} = \frac{(-3)^3}{4^3} \times \frac{(-5)^{-3}}{2^{-3}} = +\frac{3^3 \times 5^{-3}}{2^6 \times 2^{-3}} = \frac{81}{5^3 \times 2^3} = \frac{81}{125 \times 8} = \frac{81}{1000} = \boxed{0,081}$$

$$K = \frac{0,09 \times 7 \times 10^{-1} \times 250}{14 \times 10^3 \times 0,5 \times 10^{-2}} = \frac{9 \times 10^{-2} \times 7 \times 10^{-1} \times 5 \times 5 \times 10^2}{7 \times 2 \times 10^3 \times 5 \times 10^{-1} \times 10^{-2}} = \frac{45}{2 \times 10^2} = \frac{45}{200} = \frac{5 \times 9}{5 \times 40} = \boxed{\frac{9}{40}}$$

$$L = 0,425 + 7 \times 10^{-4} + 23 \times 10^{-2} = 4250 \times 10^{-4} + 7 \times 10^{-4} + 2300 \times 10^{-4} = 6557 \times 10^{-4} = 0,6557$$

$$M = \frac{10^{-2} - 6^2}{10^3} = \frac{0,01 - 36}{1000} = -35,99 \times 10^{-3} = -0,03599$$

$$N = \frac{10^3 \times 5^{-4} \times 2^3}{7^4 \times 11^{-8} \times 3^2} = \frac{2^3 \times 5^3 \times 5^{-4} \times 2^3}{7^4 \times 11^{-8} \times 3^2} = \frac{2^6 \times 5^{-1}}{7^4 \times 11^{-8} \times 3^2} = \boxed{\frac{2^6 \times 11^8}{5^1 \times 7^4 \times 3^2}}$$

$$O = \frac{3 \times 10^{15} - 24 \times 10^{14}}{3 \times 2 \times 10^{-20}} = \frac{3(10^{15} - 8 \times 10^{14})}{3 \times 2 \times 10^{-20}} = \frac{10^{15} - 8 \times 10^{14}}{2 \times 10^{-20}} = \frac{10^{14}(10 - 8)}{2 \times 10^{-20}} = 10^{14-(-20)} = \boxed{10^{34}}$$

$$P = \frac{5^{22} + 5^{23}}{5^{26} + 5^{25}} = \frac{5^{22}(1 + 5^1)}{5^{25}(5^1 + 1)} = 5^{22-25} = \boxed{5^{-3}}$$

$$Q = \frac{8^3 \times 3^{-5}}{2^8 \times 3^{-3}} \times \frac{(-5)^5 \times 3^4}{-15^3} = \frac{+2^9 \times 3^{-5} \times 5^5 \times 3^4}{+2^8 \times 3^{-3} \times 3^3 \times 5^3} = 2^1 \times 3^{-1} \times 5^2 = \boxed{\frac{50}{3}}$$

$$R = \frac{-3 \times \frac{5}{16}}{(-5)^2} = \frac{-\frac{15}{16}}{25} = -\frac{15}{16} \times \frac{1}{25} = \boxed{-\frac{3}{80}}$$

$$(10+6) \times 5 = 50 + 30$$

$$S = 3^{-2} + \frac{\left(\frac{1}{2}+\frac{1}{3}\right)^2}{\frac{5}{4}} = \frac{1}{9} + \left(\frac{5}{6}\right)^2 \times \frac{4}{5} = \frac{1}{9} + \frac{25}{36} \times \frac{4}{5} = \frac{1}{9} + \frac{5}{9} = \frac{6}{9} = \boxed{\frac{2}{3}}$$

$$T = \frac{10}{3} - \frac{5}{3}\left(-\frac{2}{3}\right)^2 = \frac{10}{3} - \frac{5}{3} \times \frac{4}{9} = \frac{10}{3} - \frac{20}{27} = \frac{90-20}{27} = \boxed{\frac{70}{27}}$$

$$U = \frac{1,5 \times 10^3 \times 0,3 \times 10^{-5}}{2,5 \times 10^2 - 10^2 \times 1} = \frac{1,5 \times 0,3 \times 10^3 \times 10^{-5}}{1,5 \times 10^2} = \boxed{0,3 \times 10^{-4}} = \boxed{3 \times 10^{-5}}$$

$$V = \frac{5^{22} \times 5^{23}}{5^{26} \times 5^{25}} = 5^{22+23-26-25} = 5^{45-51} = \boxed{5^{-6}}$$

$45 \xrightarrow{+6} 51$

$$W = \frac{(-3)^5 \times 2^4}{12^3} = \frac{-3^5 \times 2^4}{2^6 \times 3^3} = -2^{4-6} \times 3^{5-3} = -\frac{3^2}{2^2} = \boxed{-\frac{9}{4}}$$

$$X = \frac{(-2)^3 \times (10^3)^2 \times 6,3 \times 10^2}{28 \times 10^{-2} \times 36 \times 10^7} = \frac{-2^3 \times 10^6 \times 63 \times 10^{-1} \times 10^2}{28 \times 36 \times 10^5} = -\frac{8 \times 63}{28 \times 36} \times 10^2 = -\frac{1}{2} \times 10^2 = \boxed{-50}$$

$$Z=(3-5)^{-3}+(-3)^{-1}(7-9) = (-2)^{-3}+\frac{1}{3}(+2) = -\frac{1}{8}+\frac{2}{3} = -\frac{3}{24}+\frac{16}{24} = \boxed{\frac{13}{24}}$$

$$A_1=3-5^2(31-3\times7)^4-5\times2^2+(-3)^3(3-5\times8+6^2)$$

$$B_1=\frac{3}{-7}\left(\frac{3}{21}\right)^{-1}-\frac{-7}{3}\left(\frac{-4}{7}\right)^2$$

$$C_1=\frac{0,5^3\left(7^{-4}\right)^{-2}}{0,25^2\times49\times35}$$

$$D_1=\frac{2,1\times10^7\times1,7\times10^{-2}}{0,51\times10^6}$$

$L = 0,425 + 7\times10^{-4} + 23\times10^{-2}$ $= 0,4250 + 0,0007 + 0,2300 = 0,6557 = 6,557 \times 10^{-1}$