AP Puissances.

1) $A = 2 \times 3^3 = 2 \times 27 = \boxed{54}$

$B = -3 \times 4^2 = -3 \times 16 = \boxed{-48}$

$C = 6^0 \times 2^3 = 1 \times 8 = \boxed{8}$

$D = 5^2 \times (-2)^3 = 25 \times (-8) = 25 \times 4 \times (-2) = 100 \times (-2) = \boxed{-200}$

$E = -3^2 \times 5^{-3} = -9 \times \frac{1}{5^3} = -9 \times \frac{1}{125} = \boxed{\frac{-9}{125}}$

$F = 7^{-1} \times 2 = \frac{1}{7} \times 2 = \boxed{\frac{2}{7}}$

$G = \frac{4^{-2}}{3^{-1}} = \frac{3^1}{4^2} = \boxed{\frac{3}{16}}$

$H = \frac{4^{-1}}{3} = \frac{1 \times 4^{-1}}{3} = \frac{1}{3 \times 4^1} = \boxed{\frac{1}{12}}$

ou $H = \frac{4^{-1}}{3} = \frac{\frac{1}{4}}{3} = \boxed{\frac{1}{12}}$

2) $I = 5^{15} \times 5^3 = \boxed{5^{18}}$

$J = \frac{5^9}{5^2} = \boxed{5^6}$

$K = (5^{-5} \times 5^{10})^5 = (5^5)^5 = \boxed{5^{25}}$

$L = 25^3 \times 5^9 = (5^2)^3 \times 5^9 = 5^6 \times 5^9 = \boxed{5^{14}}$

$M = \frac{(5^3)^4}{25^2} = \frac{5^{12}}{(5^2)^2} = \frac{5^{12}}{5^4} = \boxed{5^8}$

3) $N = 8^{12} + 8^{13} = 8^{12}(1+8) = \boxed{8^{12} \times 9}$

$O = 6^7 - 6^9 = 6^7(1-6^2) = 6^7(1-36) = \boxed{-35 \times 6^7}$

$P = 8^n + 8^{n+2} = 8^n(1+8^2) = 8^n \times (1+64) = \boxed{65 \times 8^n}$

$Q = \frac{11^{10} + 11^9}{11^{10} - 11^8} = \frac{11^9 \times (11+1)}{11^8(11^2-1)} = \frac{11 \times 12}{121-1}$

$= \frac{11 \times 12}{120} = \frac{11 \times 12}{12 \times 10} = \boxed{\frac{11}{10}}$

4) $R = \frac{3^{12} - 3^{10}}{3^{11} - 3^9} = \frac{3^{10}(3^2-1)}{3^9(3^2-1)} = \frac{3^{10}}{3^9} = \boxed{3}$

$S = \frac{7^5 - 7^4}{7^3 - 7^4} = \frac{7^4(7-1)}{7^3(1-7)} = \frac{7^4 \times 6}{7^3 \times (-6)} = \frac{7^4 \times 6}{7^3 \times 6 \times (-1)} = \frac{7}{-1} = \boxed{-7}$

$T = \frac{20^4}{2^5} = \frac{(2 \times 10)^4}{2^5} = \frac{2^4 \times 10^4}{2^5} = \frac{10^4}{2} = \frac{10 \times 10^3}{2} = 5 \times 10^3 = \boxed{5000}$

$U = 15^4 \times 5^{-6} = \frac{15^4}{5^6} = \frac{(5 \times 3)^4}{5^6} = \frac{5^4 \times 3^4}{5^6} = \frac{3^4}{5^2} = \boxed{\frac{81}{25}}$

$V = \frac{6^8}{3^{11} \times 4^3} = \frac{(3 \times 2)^8}{3^{11} \times 4^3} = \frac{3^8 \times 2^8}{3^{11} \times 4^3} = \frac{2^8}{3^2 \times (2^2)^3} = \frac{2^8}{9 \times 2^6} = \frac{2^2}{9} = \boxed{\frac{4}{9}}$

$W = \frac{4^{n+2}}{4^n} = 4^{n+2-n} = 4^2 = \boxed{16}$

$X = \frac{7^{2n}}{7^n} = 7^{2n-n} = \boxed{7^n}$

$Y = \frac{5^n}{5^{n-1}} = 5^{n-(n-1)} = 5^{n-n+1} = 5^1 = \boxed{5}$

$Z = \frac{3^{n+4}}{3^{n+1}} = 3^{n+4-(n+1)} = 3^{n+4-n-1} = 3^3 = \boxed{27}$

5) $A = 4^{2n} = (4^2)^n = \boxed{16^n}$

$B = 2^{3n} = (2^3)^n = \boxed{8^n}$

$C = \frac{5^{2n}}{3^n} = \frac{(5^2)^n}{3^n} = \frac{25^n}{3^n} = \boxed{\left(\frac{25}{3}\right)^n}$

$D = \frac{3^{-n}}{2^{2n}} = \frac{1 \times 3^{-n}}{2^{2n}} = \frac{1}{(2^2)^n \times 3^n} = \frac{1}{4^n \times 3^n} = \frac{1}{(4\times 3)^n}$

$= \frac{1}{12^n}$

$= \boxed{\left(\frac{1}{12}\right)^n}$