

**Exercice 1**

1)  $7^2 \times 7^4 = 7^{2+4} = 7^6$

2)  $\frac{15^3}{15^2} = 15^{3-2} = 15$

3)  $8^{-2} = \frac{1}{8^2} = \frac{1}{64}$

4)  $\frac{2^4 \times 2^7}{2^3} = 2^{4+7-3} = 2^8$

5)  $2^8 \times 2 \times 2^{-4} = 2^{8+1-4} = 2^5$

**Exercice 2**

1)  $4^7 \times 4^{10} \times 4^{-2} = 4^{7+10-2} = 4^{15}$

2)  $\frac{5^2 \times 5^7}{5^{-3}} = 5^{2+7-(-3)} = 5^{12}$

3)  $4^7 \times 5^7 = (4 \times 5)^7 = 20^7$

4)  $\frac{6^8}{6^{-2}} = 6^{8+2} = 6^{10}$

5)  $\frac{10^5 \times 10^{-4}}{10^{-3}} = 10^{5-4+3} = 10^4$

6)  $\frac{15^8}{3^8} = \left(\frac{15}{3}\right)^8 = 5^8$

7)  $\left(\frac{3}{7}\right)^9 \times \frac{3}{7} = \left(\frac{3}{7}\right)^{9+1} = \left(\frac{3}{7}\right)^{10}$

8)  $(12^3)^5 = 12^{15}$

**Exercice 3**

A =  $3,213 \times 10^5 = 321300$

B =  $0,000123 \times 10^6 = 123$

C =  $13 \times 10^{-4} = 0,0013$

D =  $0,13 \times 10^{-2} = 0,0013$

E =  $10^{-3} = 0,001$

**Exercice 4**

1)  $2000 \times 10^{-1} = 200$

2)  $2175 \times 10^{-5} = 0,02175$

3)  $281 \times 10^{-2} = 2,81$

4)  $0,9 \times 10^5 = 90000$

5)  $3 \times 10^{-3} = 0,003$