

Écrire sous une forme exponentielle simplifiée **avec des exposants positifs**.

1.  $(x^3)^4 =$

2.  $5^{-2} =$

3.  $(a^7 b^9)^2 =$

4.  $b^5 \times b^{-8} =$

5.  $(b^5 c^8)^{-3} =$

6.  $a^4 (c^5)^4 =$

7.  $(ad^4 e^2)^2 =$

8.  $(x^4 y^{-2})^3 =$

9.  $(a^2 b^{-6} c^2)^3 =$

10.  $(c^7 d^{-17})^{-1} =$

11.  $(a^5 b^{-6} a^7 b^3)^2 =$

12.  $(3c^{-4} n^{-4} c^{-8} n^{-3})^3 =$

13.  $(3a)^2 (4a)^3 =$

14.  $x^{-5} \div x^3 =$

15.  $x^{-9} y^7 \div (x^{15} y^9) =$

16.  $x^5 \div x^5 =$

17.  $\frac{x^6}{x^7} =$

18.  $\frac{a^6 b^2}{a^5 b^7} =$

19.  $\frac{3^6 \times 4^5 \times 5^2}{4^6 \times 5^3 \times 3^5} =$

20.  $\left(\frac{x^5}{y^8}\right)^2 =$

21.  $\left(\frac{x^3}{y^4}\right)^5 =$

22.  $\left(\frac{x^5 z^7}{y^4}\right)^3 =$

23.  $\left(\frac{x^5 y^7}{x^3 y^4}\right)^{-2} =$

**Corrigé page suivante**

1.  $(x^3)^4 = x^{12}$
2.  $5^{-2} = \frac{1}{5^2}$
3.  $(a^7b^9)^2 = a^{14}b^{18}$
4.  $b^5 \times b^{-8} = b^{-3} = \frac{1}{b^3}$
5.  $(b^5c^8)^{-3} = b^{-15}c^{-24} = \frac{1}{b^{15}c^{24}}$
6.  $a^4(c^5)^4 = a^4c^{20}$
7.  $(ad^4e^2)^2 = a^2d^8e^4$
8.  $(x^4y^{-2})^3 = x^{12}y^{-6} = \frac{x^{12}}{y^6}$
9.  $(a^2b^{-6}c^2)^3 = a^6b^{-18}c^6 = \frac{a^6c^6}{b^{18}}$
10.  $(c^7d^{-17})^{-1} = c^{-7}d^{17} = \frac{d^{17}}{c^7}$
11.  $(a^5b^{-6}a^7b^3)^2 = a^{24}b^{-6} = \frac{a^{24}}{b^6}$
12.  $(3c^{-4}n^{-4}c^{-8}n^{-3})^3 = 27c^{-36}n^{-21} = \frac{27}{c^{36}n^{21}}$
13.  $(3a)^2(4a)^3 = 9a^264a^3 = 576a^5$
14.  $x^{-5} \div x^3 = x^{-8} = \frac{1}{x^8}$
15.  $x^{-9}y^7 \div (x^{15}y^9) = x^{-24}y^{-2} = \frac{1}{x^{24}y^2}$
16.  $x^5 \div x^5 = x^0 = 1$
17.  $\frac{x^6}{x^7} = \frac{1}{x}$
18.  $\frac{a^6b^2}{a^5b^7} = \frac{a}{b^5}$
19.  $\frac{3^6 \times 4^5 \times 5^2}{4^6 \times 5^3 \times 3^5} = \frac{3}{4 \times 5}$
20.  $\left(\frac{x^5}{y^8}\right)^2 = \frac{x^{10}}{y^{16}}$
21.  $\left(\frac{x^3}{y^4}\right)^5 = \frac{x^{15}}{y^{20}}$

$$22. \left( \frac{x^5 z^7}{y^4} \right)^3 = \frac{x^{15} z^{21}}{y^{12}}$$

$$23. \left( \frac{x^5 y^7}{x^3 y^4} \right)^{-2} = (x^2 y^3)^{-2} = x^{-4} y^{-6} = \frac{1}{x^4 y^6}$$