

	فرمول	مثال
1	$a^n a^m = a^{n+m}$	$a^{-y} a^4 = a^{-y+4} = a^{-3}$
2	$(a^n)^m = a^{nm}$	$(a^7)^3 = a^{(7)(3)} = a^{21}$
3	$\frac{a^n}{a^m} = \begin{cases} a^{n-m} \\ \frac{1}{a^{m-n}} \end{cases}, a \neq 0$	$\frac{a^4}{a^{11}} = a^{4-11} = a^{-7}$ $\frac{a^4}{a^{11}} = \frac{1}{a^{11-4}} = \frac{1}{a^7} = a^{-7}$
4	$(ab)^n = a^n b^n$	$(ab)^{-4} = a^{-4} b^{-4}$
5	$\left(\frac{a}{b}\right)^n = \frac{a^n}{b^n}, b \neq 0$	$\left(\frac{a}{b}\right)^8 = \frac{a^8}{b^8}$
6	$\left(\frac{a}{b}\right)^{-n} = \left(\frac{b}{a}\right)^n = \frac{b^n}{a^n}$	$\left(\frac{a}{b}\right)^{-10} = \left(\frac{b}{a}\right)^{10} = \frac{b^{10}}{a^{10}}$
7	$(ab)^{-n} = \frac{1}{(ab)^n}$	$(ab)^{-20} = \frac{1}{(ab)^{20}}$
8	$\frac{1}{a^{-n}} = a^n$	$\frac{1}{a^{-2}} = a^2$
9	$\frac{a^{-n}}{b^{-m}} = \frac{b^m}{a^n}$	$\frac{a^{-6}}{b^{-17}} = \frac{b^{17}}{a^6}$
10	$(a^n b^m)^k = a^{nk} b^{mk}$	$(a^4 b^{-9})^3 = a^{(4)(3)} b^{(-9)(3)} = a^{12} b^{-27}$
11	$\left(\frac{a^n}{b^m}\right)^k = \frac{a^{nk}}{b^{mk}}$	$\left(\frac{a^6}{b^5}\right)^2 = \frac{a^{(6)(2)}}{b^{(5)(2)}} = \frac{a^{12}}{b^{10}}$