

Index Law 1: Multiplying Powers (Same Base)*(Add the indices)*

1. $3^4 \times 3^2$
 $= 3^{4+2}$
 $= 3^6$
 2. $7^5 \times 7^3$
 $= 7^{5+3}$
 $= 7^8$
 3. $x^6 \times x^2$
 $= x^{6+2}$
 $= x^8$
 4. $a^3 \times a^8$
 $= a^{3+8}$
 $= a^{11}$
 5. $10^4 \times 10^1$
 $= 10^{4+1}$
 $= 10^5$
 $=$
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Index Law 2: Dividing Powers (Same Base)*(Subtract the indices)*

1. $9^7 \div 9^2$
 $= 9^{7-2}$
 $= 9^5$
2. $5^6 \div 5^4$
 $= 5^{6-4}$
 $= 5^2$
 $=$
3. $m^9 \div m^3$
 $= m^{9-3}$
 $= m^6$
4. $b^{10} \div b^6$
 $= b^{10-6}$
 $= b^4$
5. $12^5 \div 12^2$
 $= 12^{5-2}$
 $= 12^3$

Index Law 3: Power of a Power*(Multiply the indices)*

1. $(4^3)^2$
 $= 4^{3 \times 2}$
 $= 4^6$
2. $(x^5)^4$
 $= x^{5 \times 4}$
 $= x^{20}$
3. $(7^2)^3$
 $= 7^{2 \times 3}$
 $= 7^6$
4. $(a^6)^2$
 $= a^{6 \times 2}$
 $= a^{12}$
5. $(m^3)^5$
 $= m^{3 \times 5}$
 $= m^{15}$

Zero Power Law*(Any non-zero base raised to the power of zero equals 1)*

1. $5^0 =$
2. $12^0 =$
3. $x^0 =$
4. $(3a)^0 =$
5. $\left(\frac{7}{2}\right)^0 =$