**NOTE:** \*\*\*remember to use these laws there must be a common base.\*\*\*

**LAWS OF EXPONENTS**

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| --- | --- |
| **Multiplication**  To multiply powers with the same base, add the exponents. | ex: (a)  i.e :  (b) |
|  |  |
| **Division**  To divide powers with the same base, subtract the exponents. | ex: (a)  i.e    (b) |
|  |  |
| **Power of a power**  To determine the power of a power, multiply the exponents. | ex: (a)  i.e:  (b) |
|  |  |
| **Power of a product (distributive property-multiplication)**  The power of a product is equal to the product of the powers. Apply the exponent to each term inside the brackets. | ex: (a)  i.e  (b) |
|  |  |
| **Power of a quotient (distributive property- division)**  The power of a quotient is equal to the quotient of the powers. Apply the exponent to each term inside the brackets.(top and bottom) | ex: (a)  i.e  (b) |
|  |  |
| **Zero Exponent**  Any power with an exponent of 0 is equal to 1. | ex: (a)  i.e (proof)  8⋅ (?) = 8  What is the value of (?)?  ∴20 = 1  (b) |
|  |  |
| **Negative exponent**  Any power with a negative exponent is rewritten with a positive exponent. To get a positive exponent we write the reciprocal of the base and change the sign of the exponent. | ex: (a)  i.e (proof)        (b) |
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