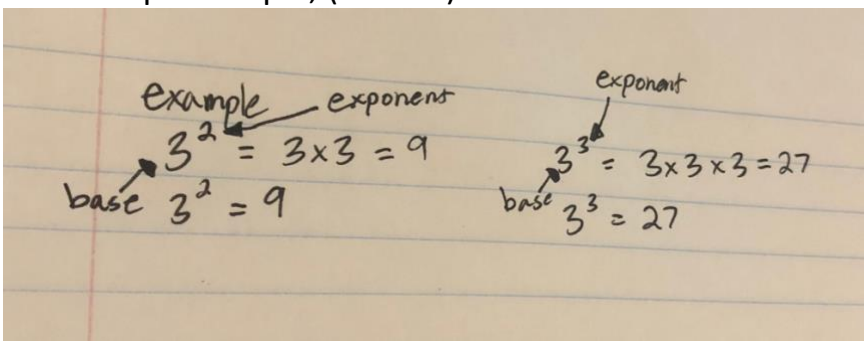
What I have learnt about grade 9 exponents

What is an exponent?

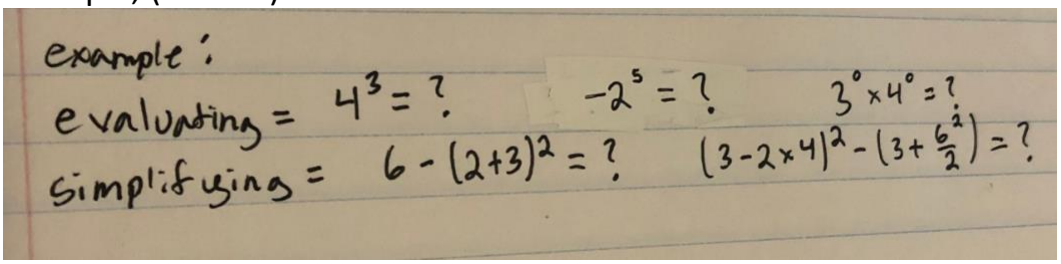
Exponent is a number multiplied by itself. Exponent is a base and a exponent on the top, the exponent tells the base how many time it has to multiply by itself. The base and the exponent together makes up a power. Exponent is a small number on top of the base number. Also exponents are lazy, because instead of writing something times something times something, they just right a exponent on the top. Example, (Picture)



What is the difference between evaluating and simplifying?

Simplifying is using BEDMAS in the equation of exponents, also simplifying is using the laws, like multiplication law, division law, and power of power law. Evaluating is not using BEDMAS because it would only have one math operation to the question, or it would be just a exponent question. So evaluating is actually figuring out the question for example **8_2 = 8 times 8= 64.**

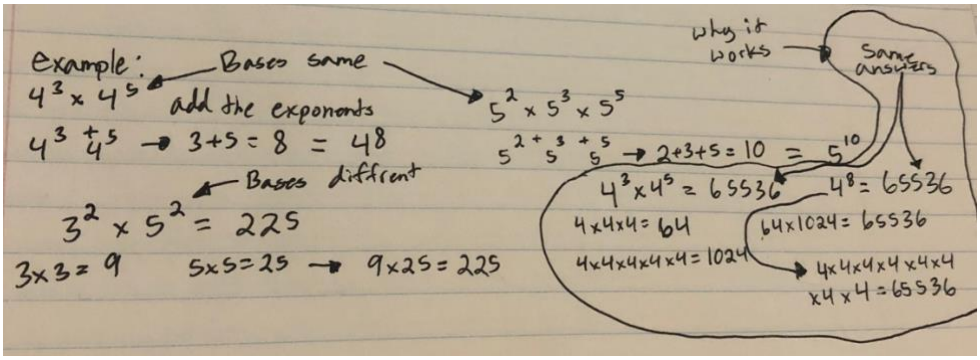
Example, (Picture)



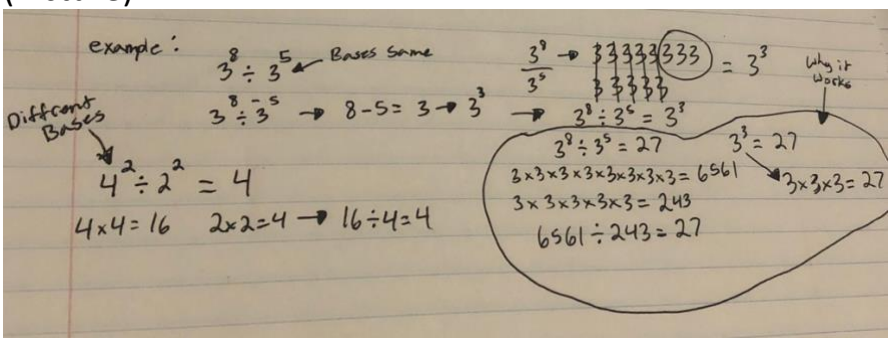
Multiplication law and why it works

For multiplication, if the bases are the same in a question, than just ADD the exponents in the question. This works because if you add the exponents to the

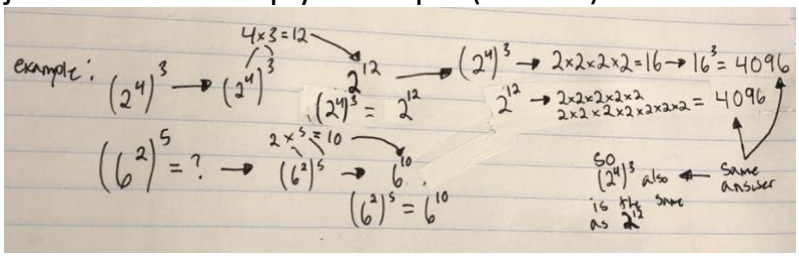
same bases you will get the same answer as the original question add the exponents or not.
If the bases are different than you have to actually multiply. So you have to figure out the exponent first and then multiply. Example (Picture)



Division Law and why it works
For division if the bases in the question are the same, we SUBTRACT the exponents in the question.
If the bases are different than you have to actually divide the question, so figure out the exponent first and then divide, its similar as multiplication. Example (Picture)



Power of Power Law and why it works
For power law, you have to multiply the exponent on the top, the exponents in the bracket and the one outside of the brackets. So for power of power law you just have to multiply. Example (Picture)

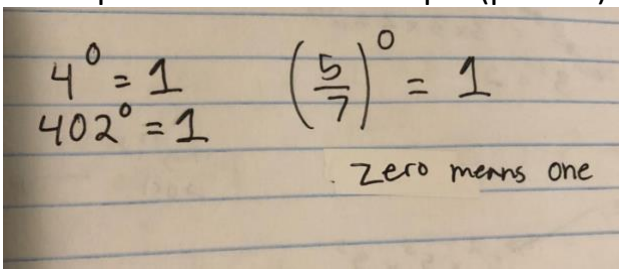


Applications of Exponents

We use exponents in our daily lives, when we measure things. Measuring by square foot is using exponents, so jobs like constructor builders, uses exponents in their job. We also use exponents in our daily life to measure long distance things, because exponents are easier to work with.

Other thing I learnt about exponents

I also learnt that in exponent, if the exponent is an 0 than that means that the whole power is a 1 for example (picture)



I also learnt about negative bases with positive exponents, if the base is negative and the exponent is even, than the answer is a positive answer, but if the base is negative and the exponent is odd, than the answer would be a negative answer. For example (picture)