

History of Exponents

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This is Not Math Class: What is an Exponent?

I know this is SCI-Blog, which stands for science blog, but math is part of science, and math plays a huge role in it. Everything is math and science. Exponents are basically when a number is multiplied by itself however many times. Have you ever heard of “a number, squared”? That means, a number to the power of 2. The power of a number is how many times it is multiplied by itself. If we have 3 to the power of 4, that is $3 \times 3 \times 3 \times 3$. If we have 9 to the power of 2, that is 9×9 . Anything to the power of 1 is the number itself, but to the power of 0, the number will always be 1. It is represented as 3^2 (3 is the example for the number and 2 is the example of the exponent), but on a computer keyboard is represented as 3^2 .

Person²: History of Exponents

Ideas of exponents have gone all the way back to 23 B.C.E. in Babylon (modern day Iraq). They were just messing around and having fun with exponents and their numbering system (sumerian), but that does not really tell us anything, so let's head a bit farther in the future. In 1544, the english mathematician Michael Stifel wrote "Arithmetica Integra," which was the first place exponents were ever used. After that, in the 15th century, Robert Recorde, an english physician and very famous mathematician for creating the equal sign, created the terms for “squared” and “cubed” (the power of 2 and 3), and although we use those, he created terms for higher powers. For example, “zenzizenzizencicas” was for the power of 8. Many people like John Napier, Henry Briggs, Pierre Herigone, Rene Descartes, and Isaac Newton used and improved exponents to what we know today.

Let's Look In Dimensions: Why it is Called “Squared” and “Cubed”

As said before, Recorde made the terms squared and cubed for the power of 2 and 3. Some of you are wondering why it is called that, and why the power of 8 got a large name. It is because when one side of a square is squared (to the power of 2), it finds the area of the square, because the other side of the square is the same length because it is a square. It is called “squared” because we are talking about squares. That is also a reason why the unit you are using has the power of 2 at the end when answering for area, because a square is 2D, so the area of the square is 2D. For cubed, it is called cubed because on a cube, when one side is cubed (to the power of 3), it finds the volume of the cube, and the length, width, and height of the cube are all the same. The reason why it has the power of 3 at the end of the unit is the same reason as the square, but because it is 3D, it has a 3. The reason anything above the power of 3 does not have a name is because we have no idea what a 4D (or more D) would look like or act like, or anything about it. Many theories are on that, but we will not know until someone finds out.

Now Time For Opposites: History of Square Root

If you did not know, square root is the opposite of exponent, and looks like $\sqrt{\quad}$, and was first used in 1525. Before that, in 1450 C.E. it was just an R. It is basically finding the length of a side of a square, only when given area. We could get into cubed root, but that is an article for another time, but it is the same as square root, but for a cube. Nobody really knows who invented square root, but it was used to split land into equal parts a long time ago, and was used by the Egyptians using inverse proportion in 1650 B.C.E. There are many methods of finding square roots, because they are much more complex than exponents.

Step Into Reality: What Exponent is Used For in Real Life

Without exponent, many things we love would not be here, and it is used for various things. For example, science, engineering, economics, computer game physics, accounting, and finance, and obviously math are some things that exponents are used in. Overall, exponents benefit daily life, and the world would be impacted significantly without them.

Thank you for reading. Stay Sci-Tastic!

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