

Order of Operations Puzzle

$0\ 0\ 0 = 6$

$1\ 1\ 1 = 6$

$2\ 2\ 2 = 6$

$3\ 3\ 3 = 6$

$4\ 4\ 4 = 6$

$5\ 5\ 5 = 6$

$6\ 6\ 6 = 6$

$7\ 7\ 7 = 6$

$8\ 8\ 8 = 6$

$9\ 9\ 9 = 6$

The goal is to make all of the above equations true by adding mathematical symbols.

The rules are:

1. You can use as many mathematical symbols as you want for each equation
2. You are not allowed to use letters such as “cos”.
3. You are not allowed to add digits of any kind (like raising a value)
4. The result has to be exactly 6 (not 6.0000000000000001 or 5.999999999999999)
5. Square root is allowed
6. You are not allowed to change “=” to “/=” (not equal to) or manipulate the result in any way
7. Ceiling and floor functions are not allowed

I want to point out that all of these have multiple solutions and there are no tricks involved, just math!

If you guys liked this one, there is another very similar math puzzle :)

$4\ 4\ 4\ 4 = 0$

$4\ 4\ 4\ 4 = 1$

$4\ 4\ 4\ 4 = 2$

$4\ 4\ 4\ 4 = 3$

And so on, until infinity :)

In this puzzle you are allowed to use each 4 however you want, example:

$(4^4)^{(4^4)}$ is allowed!

Of course you are not allowed to add numbers, example:

$(4^4)/4 + 4 - 4$ is not allowed!

I stopped at 32 if I remember it correctly :)

Some solutions

$$0\ 0\ 0 = 6 \quad (0!+0!+0!)! = 6$$

$$1\ 1\ 1 = 6 \quad (1!+1!+1!)! = 6$$

$$2\ 2\ 2 = 6 \quad 2+2+2 = 6$$

$$3\ 3\ 3 = 6 \quad 3!+3!-3! = 6$$

$$4\ 4\ 4 = 6 \quad 4+4-\sqrt{4} = 6$$

$$5\ 5\ 5 = 6 \quad 5+\frac{5}{5} = 6$$

$$6\ 6\ 6 = 6 \quad 6^{\frac{6}{6}} = 6$$

$$7\ 7\ 7 = 6 \quad 7-\frac{7}{7} = 6$$

$$8\ 8\ 8 = 6 \quad \left(\sqrt{8+\frac{8}{8}}\right)!$$

$$9\ 9\ 9 = 6 \quad \frac{9+9}{\sqrt{9}} = 6$$