

# Order of operations



## Four ranks, top to bottom

### Parentheses

( ) [ ]

Everything inside the brackets, before anything outside them.

### Exponents

$a^2 \sqrt{\phantom{x}}$

Then the powers and the roots.

### Multiply and Divide

$\times \div$

One rank, not two. Take them left to right.

### Add and Subtract

$+$   $-$

One rank, not two. Take them left to right.

**The trap:**  $10 - 4 + 3$  is 9, not 3. Same rank means left to right, so the subtraction happens first.

## One question, all the way down

### BRACKETS

$$20 - 3 \times (2 + 4)^2 \div 12$$

### POWERS

$$20 - 3 \times 6^2 \div 12$$

### $\times$ AND $\div$ , LEFT TO RIGHT

$$20 - 3 \times 36 \div 12$$

### ...AND ON TO THE $\div$

$$20 - 108 \div 12$$

### WHAT IS LEFT

$$20 - 9$$

### ANSWER

**11**

**P**lease

**E**xcuse

**M**y

**D**ear

**A**unt

**S**ally