

# Math Conventions

focus on what might seem different

## Operator precedence:

- `:: $ [ ]` PEU: `%x%` (MD)(AS) and L-to-R priority if equal
- `"1:5 * 2"` `:"` has precedence
- logic: `!` (`& &&`) (`| ||`) xor
- (`&` is vectorized "AND"; `&&` is single-valued "AND")

## Operators to note:

exponentiation: `^` (accepts `**`)

modulus: `%%` (matrix: `%x%`)

integer division: `%/%`

define vector: `c(...)`

test if element present: `%in%`

## R input and response:

```
a <- c("alpha", "beta", "gamma")
c("gamma", "eta") %in% a
## [1] TRUE FALSE
```