Mathematics Cheatsheet

Basic Operations

Addition

a + b

Subtraction

a - b

Multiplication

a * b

Division

a / b

Exponentiation

a ** b

Square root

sqrt(a)

Algebra

Solving for x

ax + b = c x = (c - b) / a

Quadratic formula

Given `ax^2 + bx + c = 0`, then `x = (-b +- sqrt(b^2-4ac)) / 2a`

Pythagorean theorem

c = sqrt(a^2 + b^2)

Trigonometry

Sine

sin(x)

Cosine

cos(x)

Tangent

tan(x)

Inverse sine

asin(x)

Inverse cosine

acos(x)

Inverse tangent

atan(x)

Calculus

Derivative

f'(x) = lim(h->0) [(f(x+h) - f(x))/h]

Integral

∫f(x)dx = F(x) + C

Limits

lim(x->a) f(x) = L

Statistics

Mean

mean(x1, x2, ..., xn)

Median

median(x1, x2, ..., xn)

Mode

mode(x1, x2, ..., xn)

Standard deviation

stdev(x1, x2, ..., xn)

Variance

variance(x1, x2, ..., xn)

Resources

- [Khan Academy](#)
- [Wolfram Alpha](#)
- [Mathway](#)
- [Desmos](#)
- [Symbolab](#)

- [Mathematics Stack Exchange](#)