

COMMON MATHEMATICAL FORMULAS



Curated by



Common mathematical formulas

Circumference

Circle:

$C = \pi d$, in which π is 3.1416 and d the diameter.

Area

Triangle:

$A = \frac{ab}{2}$, in which a is the base and b the height.

Square:

$A = a^2$, in which a is one of the sides.

Rectangle:

$A = ab$, in which a is the base and b the height.

Trapezoid:

$A = \frac{h(a + b)}{2}$, in which h is the height, a the longer parallel side, and b the shorter.

Regular pentagon:

$A = 1.720a^2$, in which a is one of the sides.

Regular hexagon:

$A = 2.598a^2$, in which a is one of the sides.

Regular octagon:

$A = 4.828a^2$, in which a is one of the sides.

Circle:

$A = \pi r^2$, in which π is 3.1416 and r the radius.

Volume

Cube:

$V = a^3$, in which a is one of the edges.

Rectangular prism:

$V = abc$, in which a is the length, b is the width, and c the depth.

Pyramid:

$V = (Ah)/3$, in which A is the area of the base and h the height.

Cylinder:

$V = r^2h$, in which is 3.1416, r the radius of the base, and h the height.

Cone:

$V = (r^2h)/3$, in which is 3.1416, r the radius of the base, and h the height.

Sphere:

$V = (4r^3)/3$, in which is 3.1416 and r the radius.

Temperature scales

Degrees Fahrenheit to Degrees Celsius:

$$TC = 5/9 (TF - 32)$$

Degrees Celsius to Degrees Fahrenheit:

$$TF = 9/5 TC + 32$$

Degrees Celsius to Kelvin:

$$TK = TC + 273.15$$

Miscellaneous

Distance in feet travelled by falling body:

$d = 16t^2$, in which t is the time in seconds.

Speed of sound in feet per second through any given temperature of air:

take the square root of $(273 + t)$, in which t is the temperature Centigrade, multiply it by 1087, and divide the result by 16.52.

Cost in cents of operation of electrical device:

$C = (Wtc)/1000$, in which W is the number of watts, t the time in hours, and c is the cost in cents per kilowatt-hour.

Conversion of matter into energy (Einstein's Theorem):

$E = mc^2$, in which E is the energy in ergs, m the mass of the matter in grams, and c the speed of light in centimetres per second: ($c^2 = 9 \times 10^{20}$)

Source:



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