Table 12.02 - Length Area and Volume Math

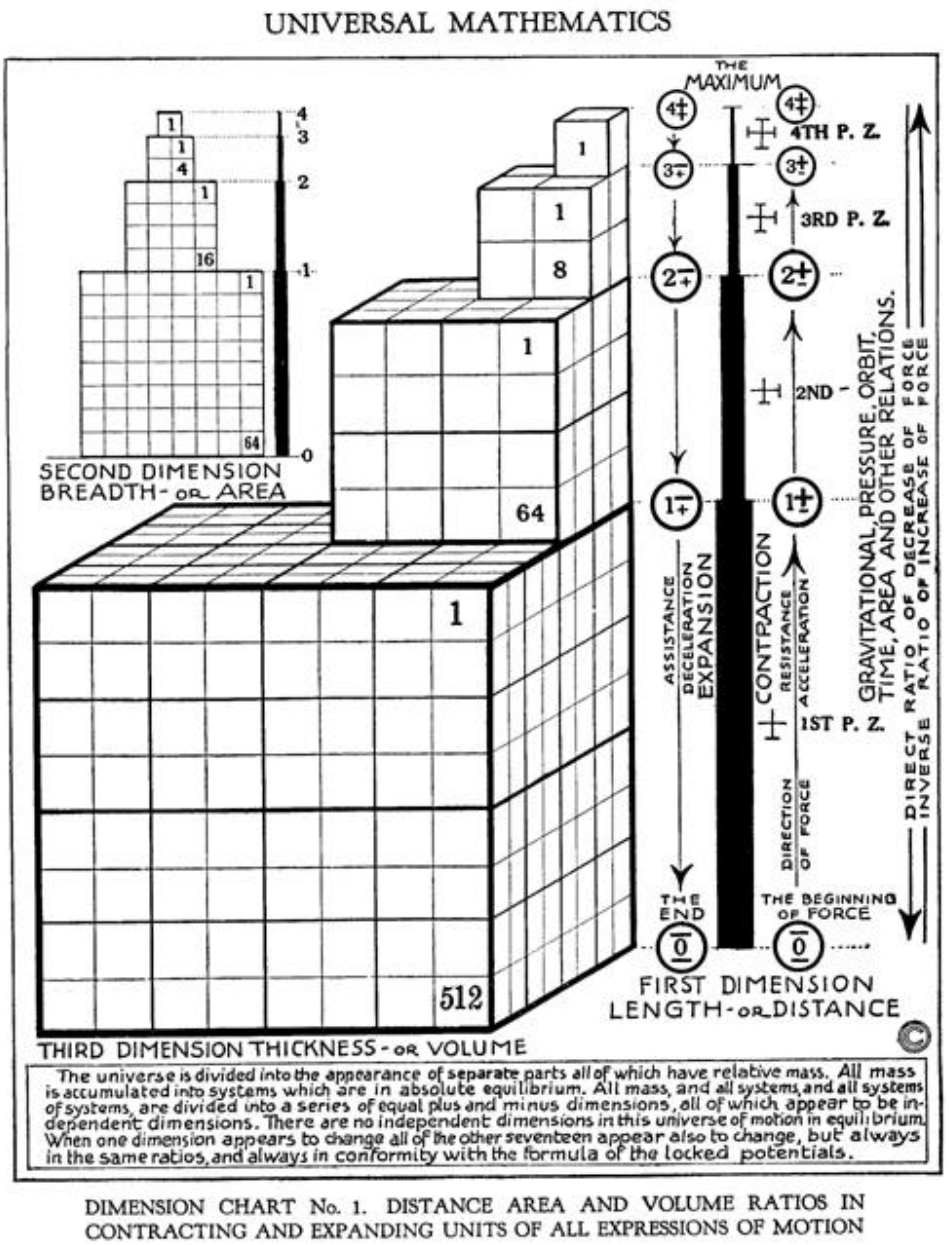

Figure 12.09 - Dimensions and Their Relationships
courtesy University of Science and Philosophy
(click to enlarge)

In graphic Figure 12.09 - Dimensions and Relationships it is clear:

Relative Volume

Accumulating Dispersing
4+ = 1/8 of 3+ or 3+ = 8 X 4+ or 8^1

3+ = 1/8 of 2+ or 2+ = 8 X 3+ or 8^2

2+ = 1/8 of 1+ or 1+ = 8 X 2+ or 8^3

Numeric Progressions (units)

1st Dimension = Linear = 1, 2, 4, 8.. (Doubling, nX2)

2nd Dimension = Area = 1, 4, 8, 64.. (Squaring, n^2)

3rd Dimension = Volume = 1, 8, 64, 512.. (Cubing, n^3)

Volumes

Cube Volume = 1 = 1^3 = 1 on a side

Cube Volume = 2 = cube root of 2 = 1.259922 on side

Cube Volume = 4 = cube root of 4 = 1.587403 on side

Cube Volume = 8 = cube root of 8 = 2 on side

therefore

Wavelengths and Frequencies - Octave Relations of Russell's Indig Number System

Indig	Vol. Units	Vol. Calc	Wavelength	Example	Octave	Note
4	1	1^3	1	1 cps	4	G as 4th octave
3	8	2^3	2	1/2 cps	3	F as 3rd octave
2	64	4^3	4	1/4 cps	2	E as 2nd octave
1	512	8^3	8	1/8 cps	1	D as 1st octave
0						C## non-octave

Table 12.02.01 - Wavelengths and Frequencies

Showing linear versus geometric progressions as also other types of progressions (counting methods or scales).
See Also

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arithmetical progression
Frequency
Geometrical Progression
Laws of Being
progression
Ratio
Reciprocal
Reciprocating Proportionality
Square Law
Table 12.02 - Length Area and Volume Math
Tone
Volume
wave number
Wavelength
12.00 - Reciprocating Proportionality
12.18 - Multiple Octave Progression

Shape	Area	Perimeter
Square	$A = s^2$ where s = length of side	$P = 4s$ where s = length of side
Rectangle	$A = lw$ where l = length, w = width	$P = 2(l + w)$ where l = length, w = width
Parallelogram	$A = lh$ where l = length, h = perpendicular height	$P = 2(l + w)$ where l = length, w = width
Trapezoid	$A = \frac{1}{2}(a + b)h$ where a and b = lengths of the parallel sides, h = perpendicular height	$P = a + b + c + d$ where a, b, c, and d = lengths of the sides
Triangle	$A = \frac{1}{2}bh$ where b = base, h = height $A = \frac{1}{2}ab\sin C$ where a and b = lengths of sides, C = included angle For equilateral triangles: $A = \frac{\sqrt{3}}{4}s^2$ where s = length of side Heron's formula $A = \sqrt{s(s-a)(s-b)(s-c)}$ where $s = \frac{1}{2}(a + b + c)$ a, b, and c = lengths of the sides	$P = a + b + c$ where a, b, and c = lengths of the sides
Kite	$A = \frac{1}{2}ab$ where a and b = lengths of the diagonals	$P = 2(l + w)$ where l = length, w = width
Rhombus	$A = \frac{1}{2}ab$ where a and b = lengths of the diagonals $A = s^2 \sin C$ where s = length of side, C = interior angle	$P = 4s$ where s = length of side
Regular Polygon	$A = \frac{1}{2}pa$ where p = perimeter, a = apothem	$P = ns$ where n = number of sides, s = length of side
Circle	$A = \pi r^2$ where r = radius	$C = 2\pi r$ where r = radius
Ellipse	$A = \pi ab$ where $2a$ and $2b$ are the lengths of the major and minor axes	

(click to enlarge)

References

Calculate various Properties of a Cylinder

See Also

Area

Cube
Length
Sphere
Volume