



Perimeter + 2(l + w)
Area = lw

Volume = lwh
Surface Area = 2(lh + lw + hw)

Circumference of a circle = 2pr
Area of a circle = pr²

Surface area of a sphere = 4pr²
Volume of a sphere = $\frac{4pr^3}{3}$

Area = $\frac{\text{base} \times \text{height}}{2}$

Volume of a pyramid = $\frac{Bh}{3}$
Volume of a cone = $\frac{Bh}{3}$
Surface Area of a cylinder = 2prh + 2pr²
Volume of a cylinder = pr²h

Pythagorean Theorem
 $c^2 = a^2 + b^2$

Prefix	Magnitude	Symbol	Meaning (multiply by)
Giga-	10 ⁹	G	1 000 000 000
Mega-	10 ⁶	M	1 000 000
kilo-	10 ³	k	1000
hecto-	10 ²	h	100
deka-	10	da	10
grams/liters/meters	-	-	-
deci-	10 ⁻¹	d	0.1
centi-	10 ⁻²	c	0.01
milli-	10 ⁻³	m	0.001
micro-	10 ⁻⁴	u (mu)	0.000 001

 SPHERE	 CONE
1 = 1.0 = 100%	
1/2 = 0.5 = 50%	
1/3 = 0.3 = 33.3%	
1/4 = 0.25 = 25%	
1/5 = 0.2 = 20%	
1/6 = 0.16 = 16.6%	
1/8 = 0.125 = 12.5%	
1/9 = 0.1 = 11.1%	
1/10 = 0.1 = 10%	
1/12 = 0.083 = 8.3%	
2/3 = 0.6 = 66.6%	
3/4 = 0.75 = 75%	

$\frac{1}{4} = \frac{\text{numerator}}{\text{denominator}}$

To add or subtract different fractions, find a common denominator, then add the numerators.

$$\frac{1}{4} + \frac{2}{3} = \frac{3}{12} + \frac{8}{12} = \frac{11}{12}$$

To multiply:

$$\frac{1}{4} \times \frac{2}{3} = \frac{2}{12} = \frac{1}{6}$$

To divide, multiply the first fraction with the reciprocal of the second fraction

$$\frac{1}{4} \div \frac{2}{3} = \frac{1}{4} \times \frac{3}{2} = \frac{3}{8}$$

The things of this world cannot be made known without a knowledge of mathematics.
- Roger Bacon

Converting Units

If you have:	Multiply by:	To get:
cm	x 0.3937	in
in	x 2.54	cm
m	x 3.2808	ft
ft	x 0.3048	m
km	x 0.6214	mi
mi	x 1.609	km
g	x 0.0353	oz
oz	x 28.35	g
kg	x 2.2046	lbs
lbs	x 0.4536	kg
t	x 1.1023	T
T	x 0.9072	t
ml	x 0.0338	fl oz
fl oz	x 29.575	ml
L	x 0.2642	US gal
US gal	x 3.785	L

30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 -1 -2 -3 -4 -5 -6 -7 -8 -9 -10 -11 -12 -13 -14 -15 -16 -17 -18 -19 -20 -21 -22 -23 -24 -25 -26 -27 -28 -29 -30