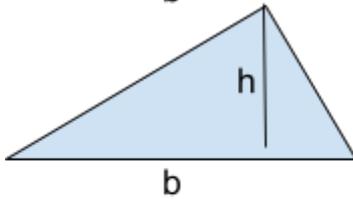


Algebraic Relations in the Real World

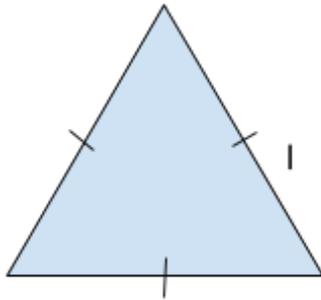
Polygon Formulas



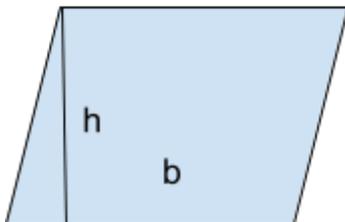
Rectangle: $A = hb$



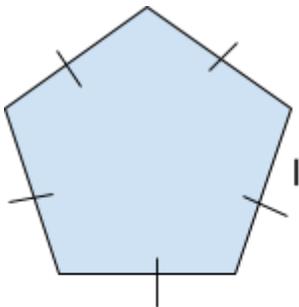
Triangle: $A = 1/2hb$



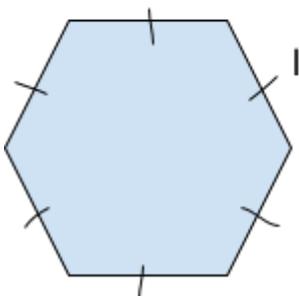
Equilateral Triangle: $A = l^2 \frac{\sqrt{3}}{4}$



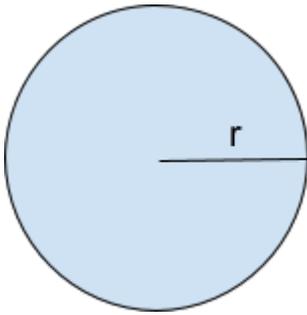
Parallelogram: $A = bh$



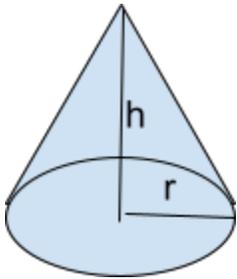
Pentagon: $A = \frac{1}{4}l^2\sqrt{5(5 + 2\sqrt{5})}$



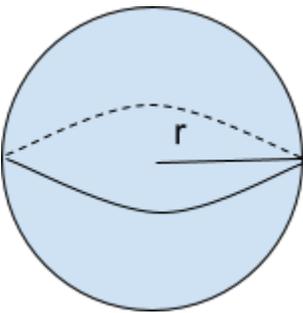
Hexagon: $A = \frac{3\sqrt{3}}{2}l^2$



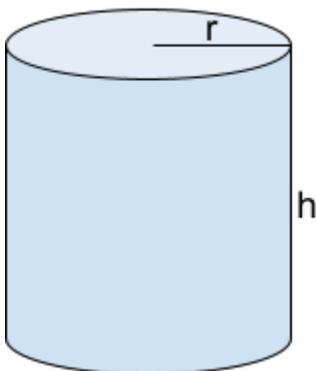
Circle:
 $A = \pi r^2$
 $C = 2\pi r$



Cone:
 $Volume = \frac{1}{3} h\pi r^2$



Sphere:
 $Surface Area = 4\pi r^2$
 $Volume = \frac{4}{3}\pi r^3$



Cylinder:
 $Volume = h\pi r^2$
 $Surface Area = 2\pi r^2 + h(2\pi r)$

Physics Big 5

1. $v_t = v_o + at$

2. $\Delta x = v_o t + \frac{1}{2}at^2$

3. $v^2 = v_o^2 + 2a(x - x_o)$

4. $\Delta x = vt - \frac{1}{2}at^2$

5. $\Delta x = \left(\frac{v_o+v}{2}\right)t$

Other Physics formulas

$F = ma$ (force)

$\tau = DF$ (torque)

$K = .5mv^2$ (kinetic energy)

$U = mgh$ (gravitational potential energy)

$p = mv$ (momentum)

Child Support Calculation

Sum Mother and Father's income, divide by the number of children. Complex table to figure out what parent without custody must pay.

Euler's Polyhedron Formula

Polygons are planar, have one face, and are bounded by line segments while polyhedrons are spatial, have one body, and are bounded by polygons.

$$V - E + F = 2$$