**(*[pi](http://math2.org/math/constants/pi.htm)* = [pi] = 3.141592...)**

**Areas**

square = a2 http://math2.org/math/geometry/square.gif

rectangle = ab http://math2.org/math/geometry/rect.gif

parallelogram = bh http://math2.org/math/geometry/parral.gif

trapezoid = h/2 (b1 + b2) http://math2.org/math/geometry/trap.gif

circle = *pi* r2 http://math2.org/math/geometry/circle.gif

ellipse = *pi* r1 r2 http://math2.org/math/geometry/ellipse.gif

triangle = (1/2) b h http://math2.org/math/geometry/triangle.gif

equilateral triangle = (1/4)sqrt(3) a2

triangle given SAS = (1/2) a b sin C

triangle given a,b,c = [sqrt][s(s-a)(s-b)(s-c)] when s = (a+b+c)/2 **(Heron's formula)**

regular polygon = (1/2) n sin(360°/n) S2  
when n = # of sides and S = length from center to a corner

**Volumes**

cube = a3 http://math2.org/math/geometry/cube.gif

rectangular prism = a b c http://math2.org/math/geometry/rprism.gif

irregular prism = **b** h http://math2.org/math/geometry/prism.gif

cylinder = **b** h = [pi] r2 h http://math2.org/math/geometry/cylinder.gif

pyramid = (1/3) **b** h http://math2.org/math/geometry/pyrimid.gif

cone = (1/3) **b** h = 1/3 [pi] r2 h http://math2.org/math/geometry/cone.gif

sphere = (4/3) [pi] r3 http://math2.org/math/geometry/circle.gif

ellipsoid = (4/3) *pi* r1 r2 r3 http://math2.org/math/geometry/ellipoid.gif

**Surface Areas**

cube = 6 a2 http://math2.org/math/geometry/cube.gif

prism:  
    (lateral area) = perimeter(**b**) L  
    (total area) = perimeter(**b**) L + 2**b** http://math2.org/math/geometry/prism.gif

sphere = 4 [pi] r2 http://math2.org/math/geometry/circle.gif