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# List of formulas in elementary geometry

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This is a short list of some common mathematical shapes and figures and the formulas that describe them.

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## Two-dimensional shapes [\[edit\]](#)

Shape	Area	Perimeter/Circumference
<a href="#">Square</a>	$A = \text{side}^2$	$P = 4 \times \text{side}$
<a href="#">Rectangle</a> ( $l$ = length, $w$ = width)	$A = l \times w$	$P = 2l + 2w$
<a href="#">Circle</a>	$A = \pi \times r^2$	$C = 2 \times \pi \times r$

<a href="#">Ellipse</a> (where a is the semimajor axis and b is the semiminor axis)	$A = \pi \times a \times b$	
<a href="#">Triangle</a> (b = base, h = height, a,b,c = sides)	$A = \frac{1}{2} \times b \times h$	$P = a + b + c$
<a href="#">Parallelogram</a> (b = base, h = height, a = side)	$A = b \times h$	$P = 2a + 2b$
<a href="#">Trapezoid</a> (where a and b are the bases)	$A = \frac{1}{2}(a + b) \times h$	

Sources:<sup>[1][2]</sup>

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## Three-dimensional shapes [ [edit](#) ]

Shape	Volume	Surface area
<a href="#">Cube</a>	$V = s^3$	$6s^2$
Rectangular <a href="#">Prism</a> l = length, h = height, w = width	$V = l \times w \times h$	$S = 2lw + 2lh + 2wh$
<a href="#">Sphere</a>	$V = \frac{4}{3} \pi r^3$	$4\pi r^2$
Right Circular Cylinder	$V = \pi \times r^2 \times h$	$S = 2\pi rh + 2\pi r^2$

Sources:<sup>[3]</sup>

## LaTeX markup (for writer/editors) [ [edit](#) ]

## Circle (area and circumference) [ [edit](#) ]

$$C = 2\pi r$$

$$A = \pi r^2$$

$$dA = dr r d\theta$$

## Sphere (area and volume) [ [edit](#) ]




$$A = 4\pi r^2$$

$$V = \frac{4}{3}\pi r^3$$

$$dA = r^2 \sin \theta d\theta d\phi$$

$$dV = r^2 \sin \theta dr d\theta d\phi$$

## References [ [edit](#) ]

- <sup>^</sup> <http://www.austincc.edu/tutor/students/resources/Geometry.pdf> 
- <sup>^</sup> <http://www.math.com/tables/geometry/areas.htm> 
- <sup>^</sup> <http://www.math.com/tables/geometry/volumes.htm> 

Categories: [Elementary geometry](#)

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