

DEFINITIONS

Geometry Formulas

The **perimeter** is the sum of the lengths of all the sides of a figure.

The **area** is the amount of space enclosed by a two-dimensional figure measured in units squared.

The **surface area** of a solid is the sum of the areas of the surfaces of a three-dimensional figure.

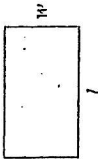
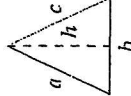
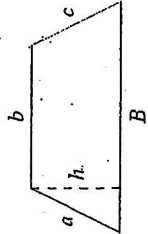
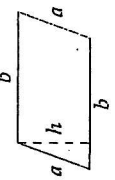
The **volume** is the amount of space occupied by a three-dimensional figure measured in units cubed.

The **radius** r of a circle is the line segment that extends from the center of the circle to any point on the circle.

The **diameter** of a circle is any line segment that extends from one point on the circle through the center to a second point on the circle. The diameter is two times the length of the radius, $d = 2r$.

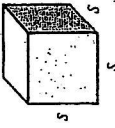
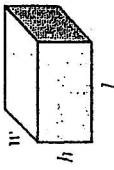
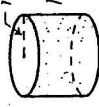
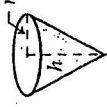
In circles, we use the term **circumference** to mean the perimeter.

Plane Figures

Plane Figures	Formulas
	Area: $A = s^2$ Perimeter: $P = 4s$
	Area: $A = lw$ Perimeter: $P = 2l + 2w$
	Area: $A = \frac{1}{2}bh$ Perimeter: $P = a + b + c$
	Area: $A = \frac{1}{2}h(b + a)$ Perimeter: $P = a + b + c + d$
	Area: $A = bh$ Perimeter: $P = 2a + 2b$
	Area: $A = \pi r^2$ Circumference: $C = 2\pi r = \pi d$

Solids

Formulas

	Volume: $V = s^3$ Surface Area: $S = 6s^2$
	Volume: $V = lwh$ Surface Area: $S = 2lw + 2lh + 2wh$
	Volume: $V = \frac{4}{3}\pi r^3$ Surface Area: $S = 4\pi r^2$
	Volume: $V = \pi r^2 h$ Surface Area: $S = 2\pi r^2 + 2\pi rh$
	Volume: $V = \frac{1}{3}\pi r^2 h$ Surface Area: $S = \pi r^2 + \pi r \sqrt{r^2 + h^2}$

Surface Area:

$$S = \pi r^2 + \pi r \sqrt{r^2 + h^2}$$