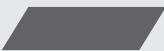







Mathematics: PROPERTIES OF SHAPES

AREA AND PERIMETER

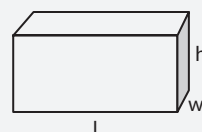
Shape	Area	Perimeter
Triangle	$A = \frac{1}{2}bh$	$A = s_1 + s_2 + s_3$
Square	$A = s^2$	$A = 4s$
Rectangle	$A = l \times w$	$A = 2l + 2w$
Parallelogram	$A = bh$	$A = s_1 + s_2 + s_3 + s_4$
Trapezoid	$A = \frac{1}{2}h(b_1 + b_2)$	$A = b_1 + b_2 + l_3 + l_4$
Rhombus	$A = \frac{1}{2}d_1d_2$	$A = 4s$
Circle	$A = \pi r^2$	$A = 2\pi r$

PROPERTIES OF QUADRILATERALS

	<p>Opposite sides are parallel. Consecutive angles are supplementary. Opposite angles are equal. Opposite sides are equal. Diagonals bisect each other.</p>
	<p>All parallelogram properties hold. Diagonals are congruent and bisect each other. All angles are right angles.</p>
	<p>All rectangle properties hold. All four sides are equal. Diagonals bisect angles. Diagonals intersect at right angles and bisect each other.</p>
	<p>One pair of opposite angles is equal. Two pairs of consecutive sides are equal. Diagonals meet at right angles.</p>
	<p>All four sides are equal. Diagonals bisect angles. Diagonals intersect at right angles and bisect each other.</p>
	<p>One pair of sides is parallel. Bases have different lengths.</p>

THREE-DIMENSIONAL SHAPES

Prism

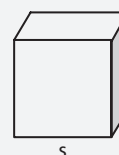


$$V = Bh$$

$$SA = 2lw + 2wh + 2lh$$

$$d^2 = a^2 + b^2 + c^2$$

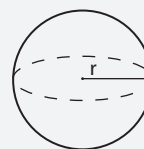
Cube



$$V = s^3$$

$$SA = 6s^2$$

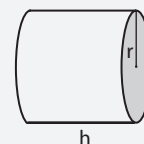
Sphere



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

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

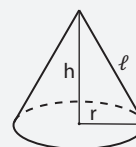
Cylinder



$$V = Bh = \pi r^2 h$$

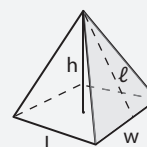
$$SA = 2\pi r^2 + 2\pi rh$$

Cone



$$V = \frac{1}{3}\pi r^2 h$$

Pyramid



$$V = \frac{1}{3}Bh$$

B = area of base

h = height

l = length

w = width

d = diagonal

s = cube edge

r = radius

ℓ = slant height