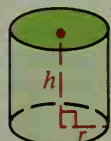


cube: A rectangular solid with square faces. (p. 476)

cylinder: The diagrams illustrate a *right cylinder* and an *oblique cylinder*. In a right cylinder, the segment joining the centers of the circular bases is an *altitude*. The length of an altitude is the *height*, h , of the cylinder. A radius of a base is a *radius*, r , of the cylinder. (p. 490)



Right



Oblique

decagon: A 10-sided polygon. (p. 101)

deductive reasoning: Proving statements by reasoning from accepted postulates, definitions, theorems, and given information. (p. 45)

diagonal: A segment joining two non-consecutive vertices of a polygon. (p. 102)

diameter: A chord that contains the center of a circle. (p. 329)

dilation: A dilation with center O and nonzero scale factor k maps any point P to a point P' determined as follows:

(1) If $k > 0$, P' lies on \overrightarrow{OP} and $OP' = k \cdot OP$.

(2) If $k < 0$, P' lies on the ray opposite \overrightarrow{OP} and $OP' = |k| \cdot OP$.

(3) The center O is its own image.

If $|k| > 1$, the dilation is an *expansion*.

If $|k| < 1$, the dilation is a *contraction*.

(p. 592)

distance from a point to a line (or plane): The length of the perpendicular segment from the point to the line (or plane). (p. 154)

dot product: For vectors (a, b) and (c, d) , the number $ac + bd$. The dot product of perpendicular vectors is zero. (p. 543)

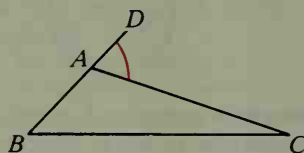
equal vectors: Vectors with the same magnitude and the same direction. (p. 540)

equiangular triangle: A triangle with all angles congruent. (p. 93)

equilateral triangle: A triangle with all sides congruent. (p. 93)

expansion: See dilation.

exterior angle of a triangle: The angle formed when one side of the triangle is extended. $\angle DAC$ is an exterior angle of $\triangle ABC$, and $\angle B$ and $\angle C$ are *remote interior angles* with respect to $\angle DAC$. *Exterior angle* is also applied to other polygons. (p. 95)



function: A correspondence between sets of numbers in which each number in the first set corresponds to exactly one number in the second set. (p. 571)

geometric mean: If a , b , and x are positive numbers with $\frac{a}{x} = \frac{x}{b}$, then x is the geometric mean between a and b . (p. 285)

glide: See translation.

glide reflection: A transformation in which every point P is mapped to a point P'' by these steps: (1) a glide maps P to P' , and (2) a reflection in a line parallel to the glide line maps P' to P'' . (p. 584)

glide reflection symmetry: A figure has glide reflection symmetry if there is a glide reflection that maps the figure onto itself. (p. 610)

golden ratio: See golden rectangle.

golden rectangle: A rectangle such that its length l and width w satisfy the equation $\frac{l}{w} = \frac{l+w}{l}$. The ratio $l:w$ is called the *golden ratio*. (p. 253)

great circle: The intersection of a sphere with any plane passing through the center of the sphere. (p. 331)

half-turn: A rotation through 180° . (p. 589)

height: The length of an altitude of a polygon or solid. (p. 424)

Heron's formula: A formula for finding the area of a triangle when the lengths of its sides are known. (p. 434)

hexagon: A 6-sided polygon. (p. 101)

hypotenuse: In a right triangle the side opposite the right angle. The other two sides are called *legs*. (p. 141)

hypothesis: See if-then statement.