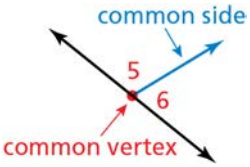
Vocabulary Flash Cards

acute angle *Chapter 1*	**adjacent angles** *Chapter 1*
angle *Chapter 1*	**angle bisector** *Chapter 1*
axiom *Chapter 1*	**between** *Chapter 1*
collinear points *Chapter 1*	**complementary angles** *Chapter 1*

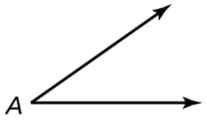
Vocabulary Flash Cards

Two angles that share a common vertex and side, but have no common interior points

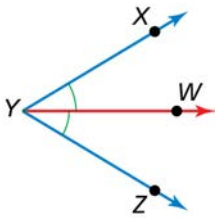


$\angle 5$ and $\angle 6$ are adjacent angles.

An angle that has a measure greater than $0°$ and less than $90°$



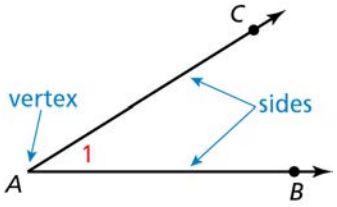
A ray that divides an angle into two angles that are congruent



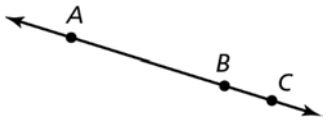
$\overrightarrow{YW}$ bisects $\angle XYZ$, so $\angle XYW \cong \angle ZYW$.

A set of points consisting of two different rays that have the same endpoint

$\angle A$, $\angle BAC$, $\angle CAB$, or $\angle 1$



When three points are collinear, one point is between the other two.

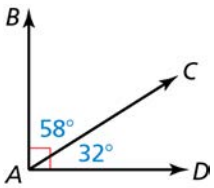


Point B is between points A and C.

A rule that is accepted without proof

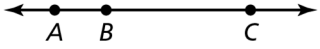
The Segment Addition Postulate states that if B is between A and C, then $AB + BC = AC$.

Two angles whose measures have a sum of $90°$



$\angle BAC$ and $\angle CAD$ are complementary angles.

Points that lie on the same line

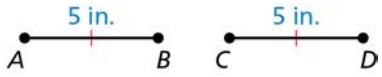
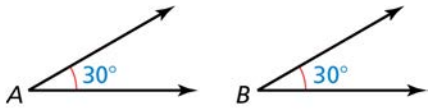
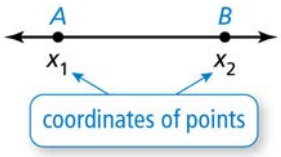
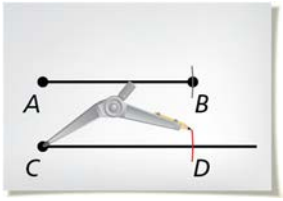
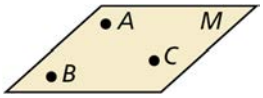
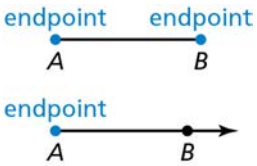
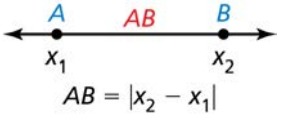


A, B, and C are collinear.

Vocabulary Flash Cards

congruent angles *Chapter 1*	**congruent segments** *Chapter 1*
construction *Chapter 1*	**coordinate** *Chapter 1*
coplanar points *Chapter 1*	**defined terms** *Chapter 1*
distance between two points *Chapter 1*	**endpoints** *Chapter 1*

Vocabulary Flash Cards

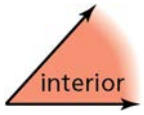
Line segments that have the same length  $\overline{AB} \cong \overline{CD}$	Two angles that have the same measure  $\angle A \cong \angle B$
A real number that corresponds to a point on a line 	A geometric drawing that uses a limited set of tools, usually a compass and a straightedge 
Terms that can be described using known words, such as *point* or *line* *Line segment* and *ray* are two defined terms.	Points that lie in the same plane  A, B, and C are coplanar.
Points that represent the ends of a line segment or ray 	The absolute value of the difference of two coordinates on a line  $AB = \lvert x_2 - x_1 \rvert$

Vocabulary Flash Cards

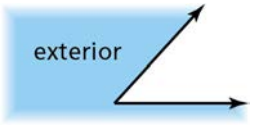
exterior of an angle *Chapter 1*	**interior of an angle** *Chapter 1*
intersection *Chapter 1*	**line** *Chapter 1*
line segment *Chapter 1*	**linear pair** *Chapter 1*
measure of an angle *Chapter 1*	**midpoint** *Chapter 1*

Vocabulary Flash Cards

The region that contains all the points between the sides of an angle



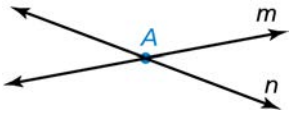
The region that contains all the points outside of an angle



A line has one dimension. It is represented by a line with two arrowheads, but it extends without end.

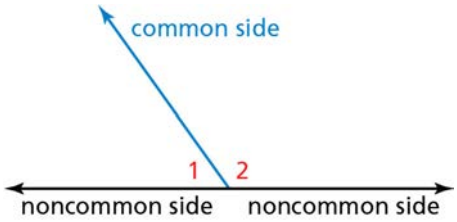
line ℓ, line AB ($\overleftrightarrow{AB}$), or line BA ($\overleftrightarrow{BA}$)

The set of points two or more geometric figures have in common



The intersection of two different lines is a point.

Two adjacent angles whose noncommon sides are opposite rays



$\angle 1$ and $\angle 2$ are a linear pair.

A part of a line that consists of two endpoints and all points on the line between the endpoints

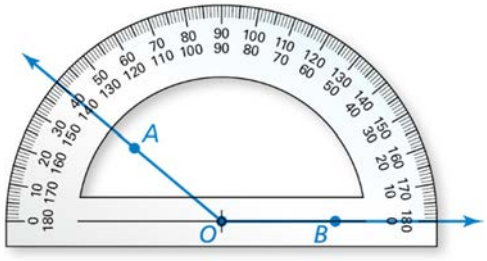
See segment.

The point that divides a segment into two congruent segments

M is the midpoint of $\overline{AB}$.

So, $\overline{AM} \cong \overline{MB}$ and $AM = MB$.

The absolute value of the difference between the real numbers matched with the two rays that form the angle on a protractor



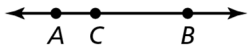
$m\angle AOB = 140°$

Vocabulary Flash Cards

obtuse angle *Chapter 1*	**opposite rays** *Chapter 1*
plane *Chapter 1*	**point** *Chapter 1*
postulate *Chapter 1*	**ray** *Chapter 1*
right angle *Chapter 1*	**segment** *Chapter 1*

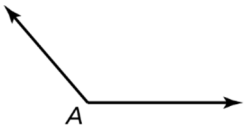
Vocabulary Flash Cards

Two rays that have the same endpoint and form a line



$\overrightarrow{CA}$ and $\overrightarrow{CB}$ are opposite rays.

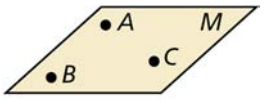
An angle that has a measure greater than $90°$ and less than $180°$



A location in space that is represented by a dot and has no dimension

point *A*

A flat surface made up of points that has two dimensions and extends without end, and is represented by a shape that looks like a floor or a wall



plane *M*, or plane *ABC*

A part of a line that consists of an endpoint and all points on the line on one side of the endpoint

$\overrightarrow{AB}$

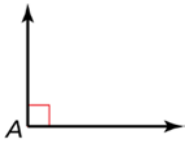
A rule that is accepted without proof

The Segment Addition Postulate states that if B is between A and C, then $AB + BC = AC$.

A part of a line that consists of two endpoints and all points on the line between the endpoints

See line segment.

An angle that has a measure of $90°$

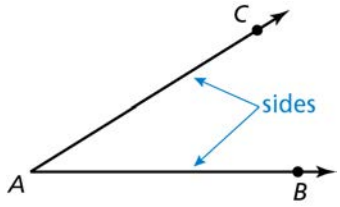


Vocabulary Flash Cards

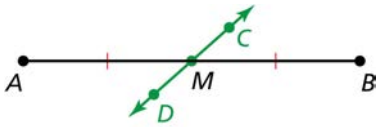
segment bisector *Chapter 1*	**sides of an angle** *Chapter 1*
straight angle *Chapter 1*	**supplementary angles** *Chapter 1*
undefined terms *Chapter 1*	**vertex of an angle** *Chapter 1*
vertical angles *Chapter 1*	**weighted average** *Chapter 1*

Vocabulary Flash Cards

The rays of an angle



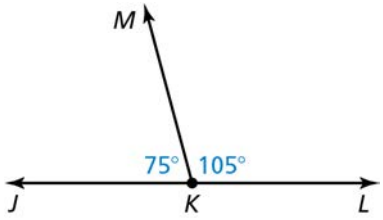
A point, ray, line, line segment, or plane that intersects the segment at its midpoint



$\overleftrightarrow{CD}$ is a segment bisector of $\overline{AB}$.

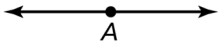
So, $\overline{AM} \cong \overline{MB}$ and $AM = MB$.

Two angles whose measures have a sum of 180°

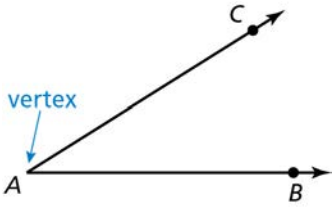


$\angle JKM$ and $\angle LKM$ are supplementary angles.

An angle that has a measure of 180°



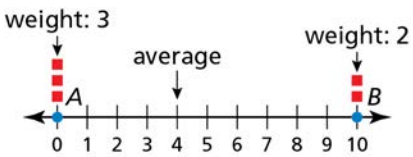
The common endpoint of the two rays that form an angle



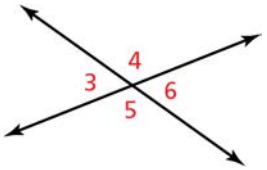
Words that do not have formal definitions, but there is agreement about what they mean

In geometry, the words *point*, *line*, and *plane* are undefined terms.

The average of two points on a number line that are weighted unequally



Two angles whose sides form two pairs of opposite rays



$\angle 3$ and $\angle 6$ are vertical angles.

$\angle 4$ and $\angle 5$ are vertical angles.

Vocabulary Flash Cards

biconditional statement *Chapter 2*	**conclusion** *Chapter 2*
conditional statement *Chapter 2*	**conjecture** *Chapter 2*
contrapositive *Chapter 2*	**converse** *Chapter 2*
counterexample *Chapter 2*	**deductive reasoning** *Chapter 2*

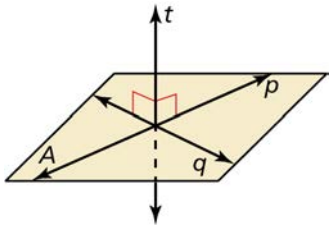
Vocabulary Flash Cards

The "then" part of a conditional statement written in if-then form If you are in Houston, then you are in Texas. hypothesis, p conclusion, q	A statement that contains the phrase "if and only if" Two lines intersect to form a right angle if and only if they are perpendicular lines.
An unproven statement that is based on observations Conjecture: The sum of any three consecutive integers is three times the second number.	A logical statement that has a hypothesis and a conclusion If you are in Houston, then you are in Texas. hypothesis, p conclusion, q
The statement formed by exchanging the hypothesis and conclusion of a conditional statement Statement: If you are a guitar player, then you are a musician. Converse: If you are a musician, then you are a guitar player.	The statement formed by negating both the hypothesis and conclusion of the converse of a conditional statement Statement: If you are a guitar player, then you are a musician. Contrapositive: If you are not a musician, then you are not a guitar player.
A process that uses facts, definitions, accepted properties, and the laws of logic to form a logical argument You use deductive reasoning to write geometric proofs.	A specific case for which a conjecture is false Conjecture: The sum of two numbers is always more than the greater number. Counterexample: $-2 + (-3) = -5$ $-5 \not> -2$

Vocabulary Flash Cards

equivalent statements *Chapter 2*	**flowchart proof (flow proof)** *Chapter 2*
hypothesis *Chapter 2*	**if-then form** *Chapter 2*
inductive reasoning *Chapter 2*	**inverse** *Chapter 2*
line perpendicular to a plane *Chapter 2*	**narrative proof** *Chapter 2*

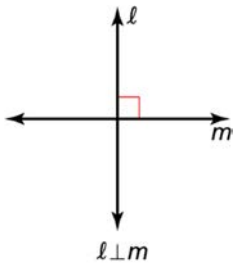
Vocabulary Flash Cards

A type of proof that uses boxes and arrows to show the flow of a logical argument	Two related conditional statements that are both true or both false A conditional statement and its contrapositive are equivalent statements
A conditional statement in the form "if p, then q", where the "if" part contains the hypothesis and the "then" part contains the conclusion If you are in Houston, then you are in Texas. hypothesis, p conclusion, q	The "if" part of a conditional statement written in if-then form If you are in Houston, then you are in Texas. hypothesis, p conclusion, q
The statement formed by negating both the hypothesis and conclusion of a conditional statement Statement: If you are a guitar player, then you are a musician. Inverse: If you are not a guitar player, then you are not a musician.	A process that includes looking for patterns and making conjectures Given the number pattern 1, 5, 9, 13, …, you can use inductive reasoning to determine that the next number in the pattern is 17.
A style of proof that presents the statements and reasons as sentences in a paragraph, using words to explain the logical flow of an argument *See paragraph proof.*	A line that intersects the plane in a point and is perpendicular to every line in the plane that intersects it at that point  Line t is perpendicular to plane P.

Vocabulary Flash Cards

negation *Chapter 2*	**paragraph proof** *Chapter 2*
perpendicular lines *Chapter 2*	**proof** *Chapter 2*
theorem *Chapter 2*	**two-column proof** *Chapter 2*

Vocabulary Flash Cards

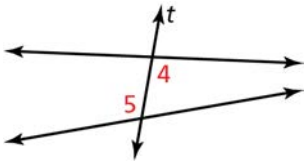
A style of proof that presents the statements and reasons as sentences in a paragraph, using words to explain the logical flow of an argument *See narrative proof.*	The opposite of a statement If a statement is p, then the negation is "not p," written $\sim p$. Statement: The ball is red. Negation: The ball is *not* red.
A logical argument that uses deductive reasoning to show that a statement is true	Two lines that intersect to form a right angle 
A type of proof that has numbered statements and corresponding reasons that show an argument in a logical order	A statement that can be proven Vertical angles are congruent.

Vocabulary Flash Cards

alternate exterior angles *Chapter 3*	**alternate interior angles** *Chapter 3*
consecutive interior angles *Chapter 3*	**corresponding angles** *Chapter 3*
directed line segment *Chapter 3*	**distance from a point to a line** *Chapter 3*
parallel lines *Chapter 3*	**parallel planes** *Chapter 3*

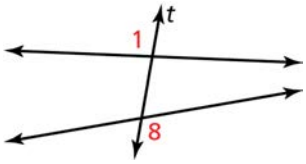
Vocabulary Flash Cards

Two angles that are formed by two lines and a transversal that are between the two lines and on opposite sides of the transversal



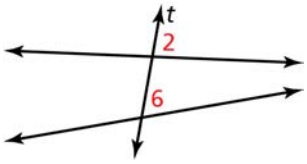
$\angle 4$ and $\angle 5$ are alternate interior angles.

Two angles that are formed by two lines and a transversal that are outside the two lines and on opposite sides of the transversal



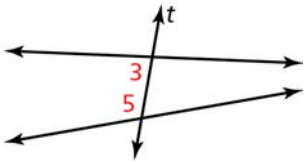
$\angle 1$ and $\angle 8$ are alternate exterior angles.

Two angles that are formed by two lines and a transversal that are in corresponding positions



$\angle 2$ and $\angle 6$ are corresponding angles.

Two angles that are formed by two lines and a transversal that lie between the two lines and on the same side of the transversal

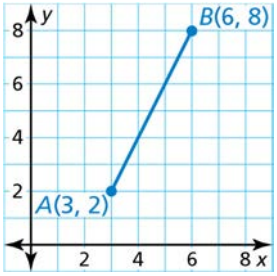


$\angle 3$ and $\angle 5$ are consecutive interior angles.

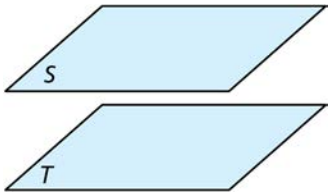
The length of the perpendicular segment from the point to the line

The distance between point A and the line k is AB.

A segment that represents moving from point A to point B is called the directed line segment AB.

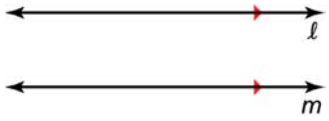


Planes that do not intersect



$S \parallel T$

Coplanar lines that do not intersect



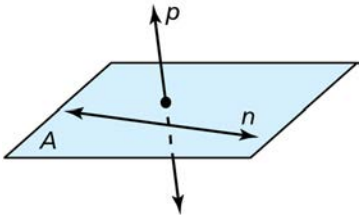
$\ell \parallel m$

Vocabulary Flash Cards

perpendicular bisector *Chapter 3*	**skew lines** *Chapter 3*
transversal *Chapter 3*	

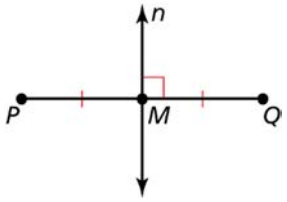
Vocabulary Flash Cards

Lines that do not intersect and are not coplanar



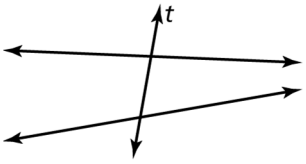
Lines n and p are skew lines.

A ray, line, line segment, or plane that is perpendicular to a segment at its midpoint



Line n is the perpendicular bisector of $\overline{PQ}$.

A line that intersects two or more coplanar lines at different points



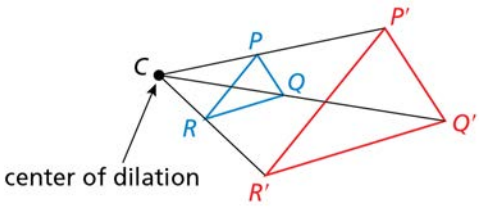
transversal t

Vocabulary Flash Cards

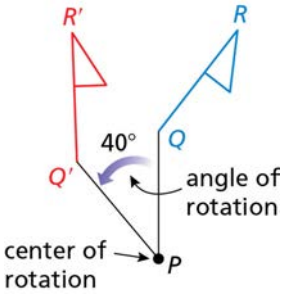
angle of rotation *Chapter 4*	**center of dilation** *Chapter 4*
center of rotation *Chapter 4*	**center of symmetry** *Chapter 4*
component form *Chapter 4*	**composition of transformations** *Chapter 4*
congruence transformation *Chapter 4*	**congruent figures** *Chapter 4*

Vocabulary Flash Cards

The fixed point in a dilation

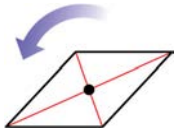


The angle that is formed by rays drawn from the center of rotation to a point and its image

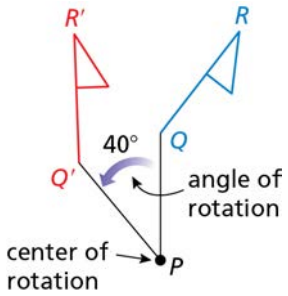


The center of rotation in a figure that has rotational symmetry

The parallelogram has rotational symmetry. The center is the intersection of the diagonals. A 180° rotation about the center maps the parallelogram onto itself.



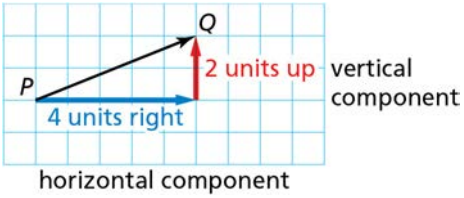
The fixed point in a rotation



The combination of two or more transformations to form a single transformation

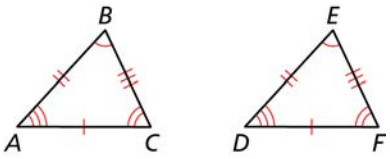
A glide reflection is an example of a composition of transformations.

A form of a vector that combines the horizontal and vertical components



The component form of $\overrightarrow{PQ}$ is $\langle 4, 2 \rangle$.

Geometric figures that have the same size and shape



$\triangle ABC \cong \triangle DEF$

A transformation that preserves length and angle measure

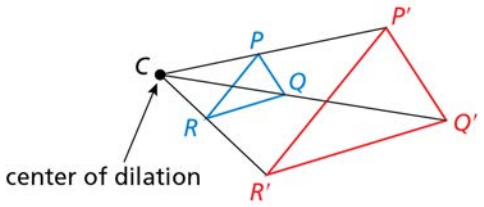
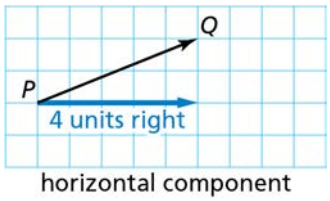
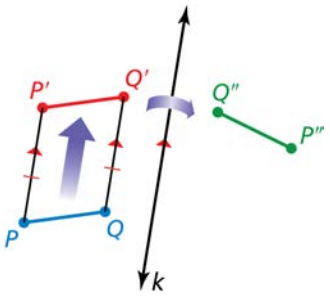
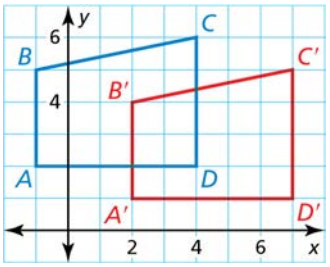
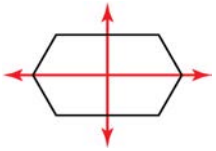
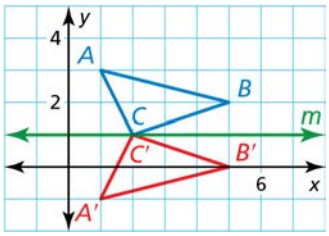
See rigid motion.

Translations, reflections, and rotations are three types of congruence transformations.

Vocabulary Flash Cards

dilation *Chapter 4*	**enlargement** *Chapter 4*
glide reflection *Chapter 4*	**horizontal component** *Chapter 4*
image *Chapter 4*	**initial point** *Chapter 4*
line of reflection *Chapter 4*	**line symmetry** *Chapter 4*

Vocabulary Flash Cards

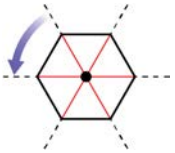
A dilation in which the scale factor is greater than 1 A dilation with a scale factor of 2 is an enlargement.	A transformation in which a figure is enlarged or reduced with respect to a fixed point  Scale factor of dilation is $\frac{CP'}{CP}$.
The horizontal change from the starting point of a vector to the ending point  horizontal component	A transformation involving a translation followed by a reflection 
The starting point of a vector  Point J is the initial point of $\overline{JK}$.	A figure that results from the transformation of a geometric figure  $A'B'C'D'$ is the image of $ABCD$ after a translation.
A figure in the plane has line symmetry when the figure can be mapped onto itself by a reflection in a line.  Two lines of symmetry	A line that acts as a mirror for a reflection  $\triangle A'B'C'$ is the image of $\triangle ABC$ after a reflection in the line m.

Vocabulary Flash Cards

line of symmetry *Chapter 4*	**order of rotational symmetry** *Chapter 4*
preimage *Chapter 4*	**reduction** *Chapter 4*
reflection *Chapter 4*	**rigid motion** *Chapter 4*
rotation *Chapter 4*	**rotational symmetry** *Chapter 4*

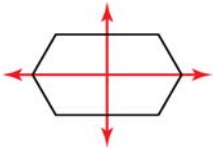
Vocabulary Flash Cards

The number of times a figure can be mapped onto itself in one $360°$ rotation about the center of the figure



There are 6 rotations that map the hexagon onto itself, so the order of rotational symmetry is 6.

A line of reflection that maps a figure onto itself

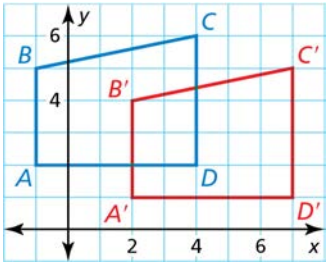


Two lines of symmetry

A dilation in which the scale factor is greater than 0 and less than 1

A dilation with a scale factor of $\frac{1}{2}$ is a reduction.

The original figure before a transformation



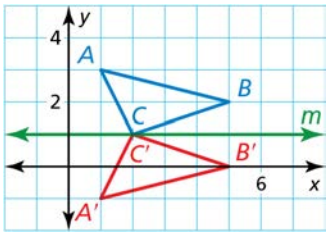
$ABCD$ is the preimage and $A'B'C'D'$ is the image after a translation.

A transformation that preserves length and angle measure

See congruence transformation.

Translations, reflections, and rotations are three types of rigid motions.

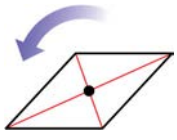
A transformation that uses a line like a mirror to reflect a figure



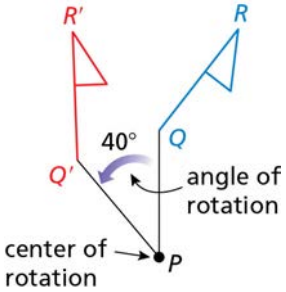
$\triangle A'B'C'$ is the image of $\triangle ABC$ after a reflection in the line m.

A figure has rotational symmetry when the figure can be mapped onto itself by a rotation of $180°$ or less about the center of the figure.

The parallelogram has rotational symmetry. The center is the intersection of the diagonals. A $180°$ rotation about the center maps the parallelogram onto itself.



A transformation in which a figure is turned about a fixed point

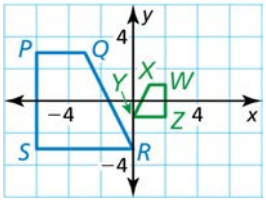


Vocabulary Flash Cards

scale factor *Chapter 4*	**similar figures** *Chapter 4*
similarity transformation *Chapter 4*	**terminal point** *Chapter 4*
tessellation *Chapter 4*	**transformation** *Chapter 4*
translation *Chapter 4*	**translational symmetry** *Chapter 4*

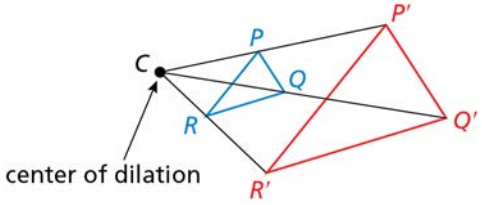
Vocabulary Flash Cards

Geometric figures that have the same shape but not necessarily the same size; Two geometric figures are similar if and only if there is a similarity transformation that maps one of the figures to the other.



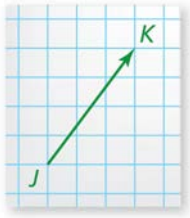
Trapezoid $PQRS$ is similar to trapezoid $WXYZ$.

The ratio of the lengths of the corresponding sides of the image and the preimage of a dilation



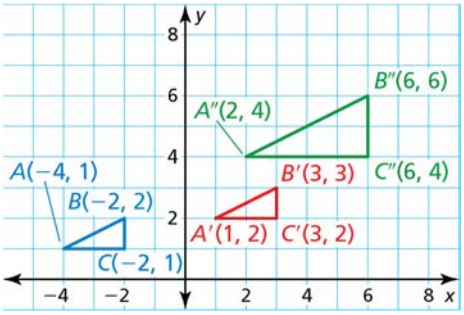
Scale factor of dilation is $\frac{CP'}{CP}$.

The ending point of a vector



Point K is the terminal point of $\overline{JK}$.

A dilation or a composition of rigid motions and dilations

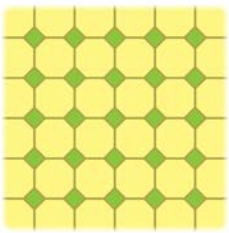


$\triangle A''B''C''$ is the image of $\triangle ABC$ after a similarity transformation.

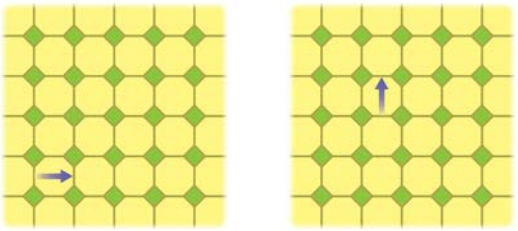
A function that moves or changes a figure in some way to produce a new figure

Four basic transformations are translations, reflections, rotations, and dilations.

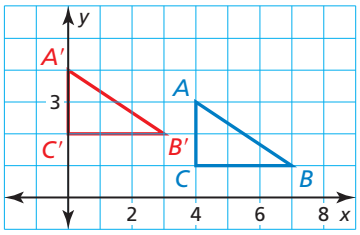
The covering of a plane with one or more congruent figures so that there are no gaps or overlaps



A tessellation has translational symmetry when the tessellation can be mapped onto itself by a translation



A transformation that moves every point of a figure the same distance in the same direction

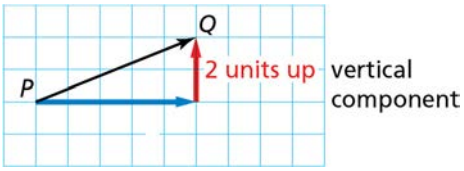


$\triangle A'B'C'$ is the image of $\triangle ABC$ after a translation.

Vocabulary Flash Cards

vector *Chapter 4*	**vertical component** *Chapter 4*

Vocabulary Flash Cards

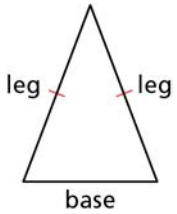
The vertical change from the starting point of a vector to the ending point  	A quantity that has both direction and magnitude, and is represented in the coordinate plane by an arrow drawn from one point to another  $\overline{JK}$ with initial point J and terminal point K.

Vocabulary Flash Cards

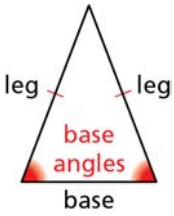
base angles of an isosceles triangle *Chapter 5*	**base of an isosceles triangle** *Chapter 5*
coordinate proof *Chapter 5*	**corollary to a theorem** *Chapter 5*
corresponding parts *Chapter 5*	**exterior angles** *Chapter 5*
hypotenuse *Chapter 5*	**interior angles** *Chapter 5*

Vocabulary Flash Cards

The side of an isosceles triangle that is not one of the legs



The two angles adjacent to the base of an isosceles triangle

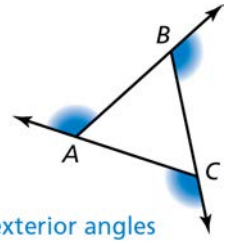


A statement that can be proved easily using the theorem

The Corollary to the Triangle Sum Theorem states that the acute angles of a right triangle are complementary.

A style of proof that involves placing geometric figures in a coordinate plane

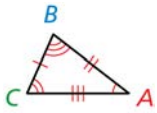
Angles that form linear pairs with the interior angles of a polygon



A pair of sides or angles that have the same relative position in two congruent figures

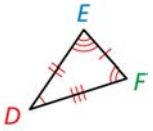
Corresponding angles

$\angle A \cong \angle D$, $\angle B \cong \angle E$, $\angle C \cong \angle F$

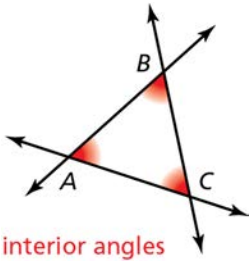


Corresponding sides

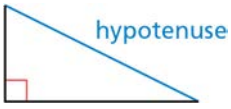
$\overline{AB} \cong \overline{DE}$, $\overline{BC} \cong \overline{EF}$, $\overline{AC} \cong \overline{DF}$



Angles of a polygon



The side opposite the right angle of a right triangle

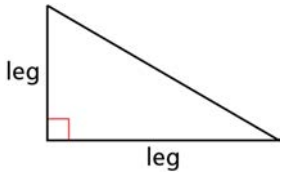


Vocabulary Flash Cards

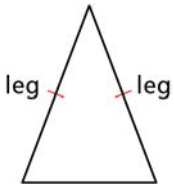
legs of an isosceles triangle *Chapter 5*	**legs of a right triangle** *Chapter 5*
vertex angle *Chapter 5*	

Vocabulary Flash Cards

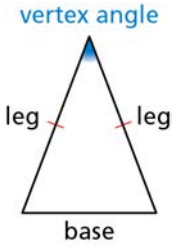
The sides adjacent to the right angle of a right triangle



The two congruent sides of an isosceles triangle



The angle formed by the legs of an isosceles triangle

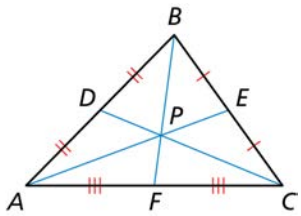


Vocabulary Flash Cards

altitude of a triangle *Chapter 6*	**centroid** *Chapter 6*
circumcenter *Chapter 6*	**concurrent** *Chapter 6*
equidistant *Chapter 6*	**incenter** *Chapter 6*
median of a triangle *Chapter 6*	**midsegment of a triangle** *Chapter 6*

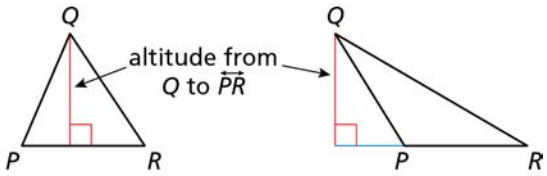
Vocabulary Flash Cards

The point of concurrency of the three medians of a triangle

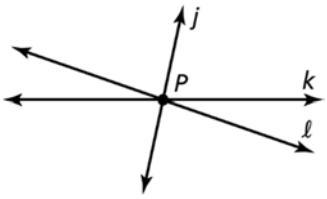


P is the centroid of $\triangle ABC$.

The perpendicular segment from a vertex of a triangle to the opposite side or to the line that contains the opposite side

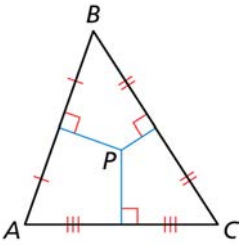


Three or more lines, rays, or segments that intersect in the same point



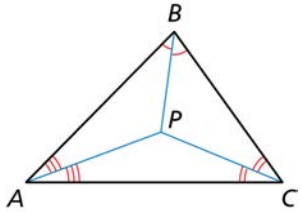
Lines j, k, and ℓ are concurrent.

The point of concurrency of the three perpendicular bisectors of a triangle



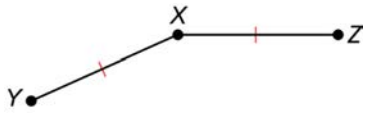
P is the circumcenter of $\triangle ABC$.

The point of concurrency of the angle bisectors of a triangle



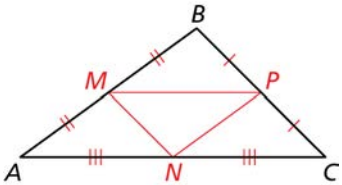
P is the incenter of $\triangle ABC$.

A point is equidistant from two figures when it is the same distance from each figure.



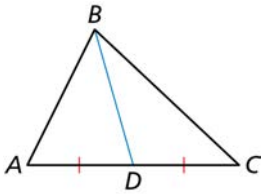
X is equidistant from Y and Z.

A segment that connects the midpoints of two sides of a triangle



The midsegments of $\triangle ABC$ are $\overline{MP}$, $\overline{MN}$, and $\overline{NP}$.

A segment from a vertex of a triangle to the midpoint of the opposite side

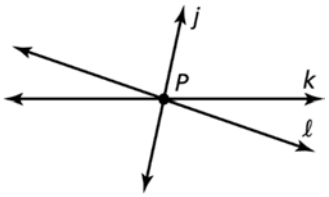
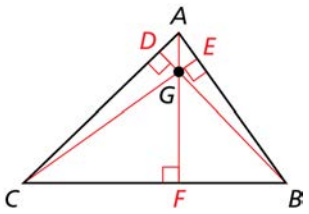


$\overline{BD}$ is a median of $\triangle ABC$.

Vocabulary Flash Cards

orthocenter *Chapter 6*	**point of concurrency** *Chapter 6*
proof by contradiction *Chapter 6*	

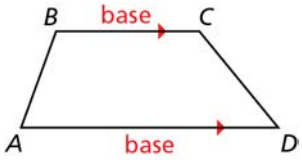
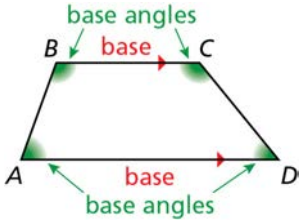
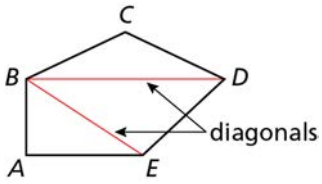
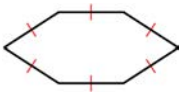
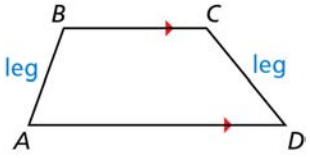
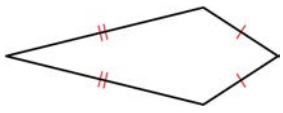
Vocabulary Flash Cards

The point of intersection of concurrent lines, rays, or segments  *P* is the point of concurrency for lines *j*, *k*, and ℓ.	The point of concurrency of the lines containing the altitudes of a triangle  *G* is the orthocenter of $\triangle ABC$.
	A style of proof in which you temporarily assume that the desired conclusion is false, then reason logically to a contradiction This proves that the original statement is true.

Vocabulary Flash Cards

base angles of a trapezoid *Chapter 7*	**bases of a trapezoid** *Chapter 7*
diagonal *Chapter 7*	**equiangular polygon** *Chapter 7*
equilateral polygon *Chapter 7*	**isosceles trapezoid** *Chapter 7*
kite *Chapter 7*	**legs of a trapezoid** *Chapter 7*

Vocabulary Flash Cards

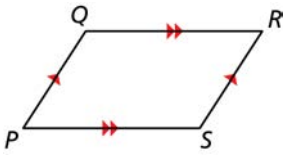
The parallel sides of a trapezoid 	Either pair of consecutive angles whose common side is a base of a trapezoid 
A polygon in which all angles are congruent 	A segment that joins two nonconsecutive vertices of a polygon 
A strict trapezoid with congruent legs 	A polygon in which all sides are congruent 
Any nonparallel sides of a trapezoid 	A quadrilateral that has two pairs of consecutive congruent sides, but opposite sides are not congruent 

Vocabulary Flash Cards

midsegment of a trapezoid *Chapter 7*	**parallelogram** *Chapter 7*
rectangle *Chapter 7*	**regular polygon** *Chapter 7*
rhombus *Chapter 7*	**square** *Chapter 7*
trapezoid *Chapter 7*	

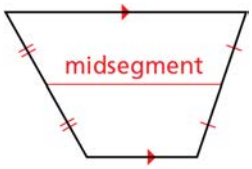
Vocabulary Flash Cards

A quadrilateral with both pairs of opposite sides parallel

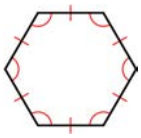


$\square PQRS$

The segment that connects the midpoints of the legs of a trapezoid

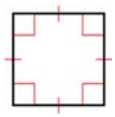


A convex polygon that is both equilateral and equiangular

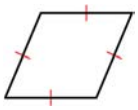


A parallelogram with four right angles

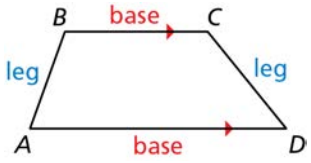
A parallelogram with four congruent sides and four right angles



A parallelogram with four congruent sides



A quadrilateral with at least one pair of parallel sides

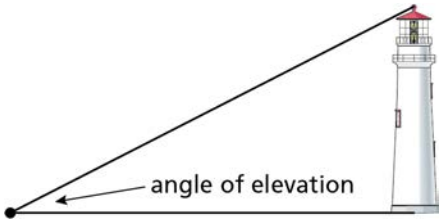


Vocabulary Flash Cards

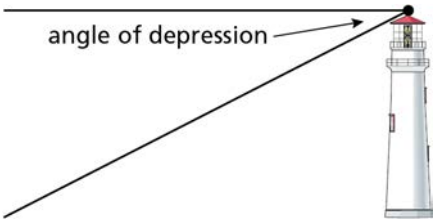
angle of depression *Chapter 9*	**angle of elevation** *Chapter 9*
cosine *Chapter 9*	**geometric mean** *Chapter 9*
inverse cosine *Chapter 9*	**inverse sine** *Chapter 9*
inverse tangent *Chapter 9*	**Law of Cosines** *Chapter 9*

Vocabulary Flash Cards

An angle formed by a horizontal line and a line of sight *up* to an object



An angle formed by a horizontal line and a line of sight *down* to an object

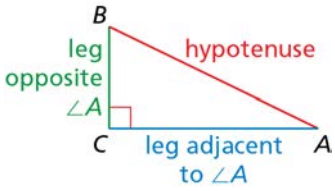


The positive number x that satisfies $\frac{a}{x} = \frac{x}{b}$

So, $x^2 = ab$ and $x = \sqrt{ab}$.

The geometric mean of 4 and 16 is $\sqrt{4 \bullet 16}$, or 8.

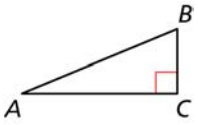
For an acute angle of a right triangle, the ratio of the length of the leg adjacent to the acute angle to the length of the hypotenuse



$$\cos A = \frac{\text{length of leg adjacent to } \angle A}{\text{length of hypotenuse}} = \frac{AC}{AB}$$

An inverse trigonometric ratio, abbreviated as $\sin^{-1}$

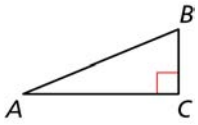
For acute angle A, if $\sin A = y$, then $\sin^{-1} y = m\angle A$.



$$\sin^{-1}\frac{BC}{AB} = m\angle A$$

An inverse trigonometric ratio, abbreviated as $\cos^{-1}$

For acute angle A, if $\cos A = z$, then $\cos^{-1} z = m\angle A$.



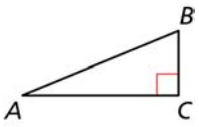
$$\cos^{-1}\frac{AC}{AB} = m\angle A$$

For $\triangle ABC$ with side lengths of a, b, and c,

$$a^2 = b^2 + c^2 - 2bc\cos A,$$
$$b^2 = a^2 + c^2 - 2ac\cos B, \text{ and}$$
$$c^2 = a^2 + b^2 - 2ab\cos C.$$

An inverse trigonometric ratio, abbreviated as $\tan^{-1}$

For acute angle A, if $\tan A = x$, then $\tan^{-1} x = m\angle A$.



$$\tan^{-1}\frac{BC}{AC} = m\angle A$$

Vocabulary Flash Cards

Law of Sines *Chapter 9*	**Pythagorean triple** *Chapter 9*
sine *Chapter 9*	**tangent** *Chapter 9*
trigonometric ratio *Chapter 9*	**unit circle** *Chapter 9*

Vocabulary Flash Cards

A set of three positive integers a, b, and c that satisfy the equation $c^2 = a^2 + b^2$

Common Pythagorean triples:

3, 4, 5

5, 12, 13

8, 15, 17

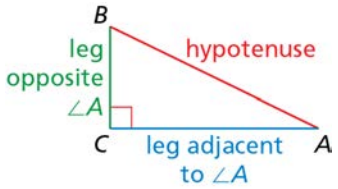
7, 24, 25

For $\triangle ABC$ with side lengths of a, b, and c,

$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c} \text{ and}$$

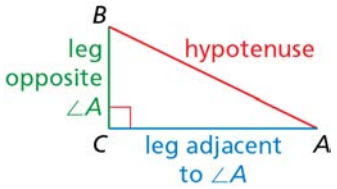
$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}.$$

For an acute angle of a right triangle, the ratio of the length of the leg opposite the acute angle to the length of the leg adjacent to the acute angle



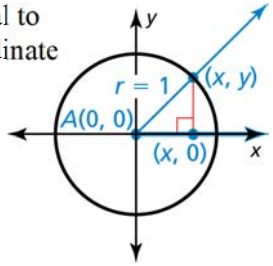
$$\tan A = \frac{\text{length of leg opposite } \angle A}{\text{length of leg adjacent to } \angle A} = \frac{BC}{AC}$$

For an acute angle of a right triangle, the ratio of the length of the leg opposite the acute angle to the length of the hypotenuse



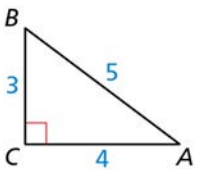
$$\sin A = \frac{\text{length of leg opposite } \angle A}{\text{length of hypotenuse}} = \frac{BC}{AB}$$

A circle with center $(0, 0)$ and radius 1; the sine and cosine of an angle with its vertex at the origin, one side of the x-axis, and one side passing through a point on the unit circle in the first quadrant are equal to the y-coordinate and x-coordinate of that point, respectively.



A ratio of the lengths of two sides in a right triangle

Three common trigonometric ratios are sine, cosine, and tangent.



$$\tan A = \frac{BC}{AC} = \frac{3}{4}$$

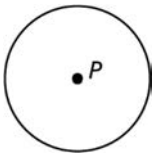
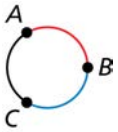
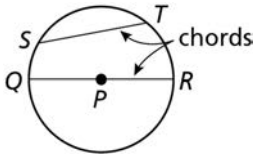
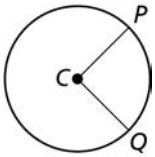
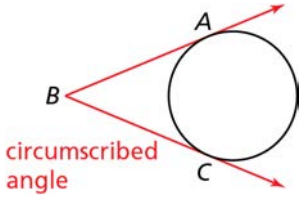
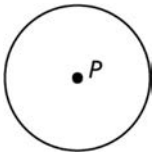
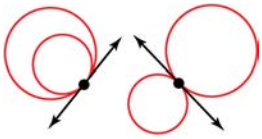
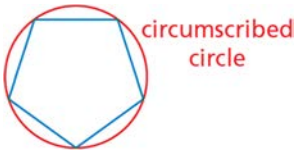
$$\sin A = \frac{BC}{AB} = \frac{3}{5}$$

$$\cos A = \frac{AC}{AB} = \frac{4}{5}$$

Vocabulary Flash Cards

adjacent arcs *Chapter 10*	**center of a circle** *Chapter 10*
central angle of a circle *Chapter 10*	**chord of a circle** *Chapter 10*
circle *Chapter 10*	**circumscribed angle** *Chapter 10*
circumscribed circle *Chapter 10*	**common tangent** *Chapter 10*

Vocabulary Flash Cards

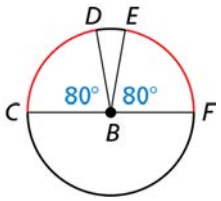
The point from which all points on a circle are equidistant  circle with center P, or $\odot P$	Arcs of a circle that have exactly one point in common  $\overset{\frown}{AB}$ and $\overset{\frown}{BC}$ are adjacent arcs.
A segment whose endpoints are on a circle  	An angle whose vertex is the center of a circle  $\angle PCQ$ is a central angle of $\odot C$.
An angle whose sides are tangent to a circle  	The set of all points in a plane that are equidistant from a given point  circle with center P, or $\odot P$
A line or segment that is tangent to two coplanar circles 	A circle that contains all the vertices of an inscribed polygon 

Vocabulary Flash Cards

concentric circles *Chapter 10*	**congruent arcs** *Chapter 10*
congruent circles *Chapter 10*	**diameter** *Chapter 10*
external segment *Chapter 10*	**inscribed angle** *Chapter 10*
inscribed polygon *Chapter 10*	**intercepted arc** *Chapter 10*

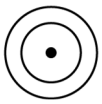
Vocabulary Flash Cards

Arcs that have the same measure and arc of the same circle or of congruent circles



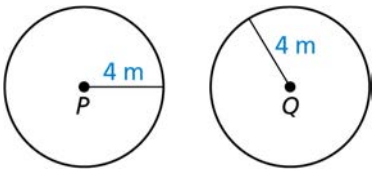
$\overset{\frown}{CD} \cong \overset{\frown}{EF}$

Coplanar circles that have a common center



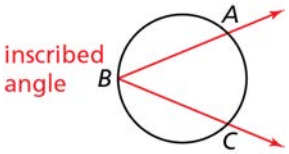
A chord that contains the center of a circle

Circles that can be mapped onto each other by a rigid motion or a composition of rigid motions

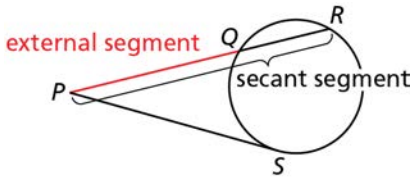


$\odot P \cong \odot Q$

An angle whose vertex lies on a circle and whose sides contain chords of the circle

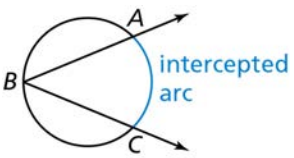


The part of a secant segment that is outside the circle



$\overline{PR}$ is a secant segment.
$\overline{PQ}$ is the external segment of $\overline{PR}$.

An arc that lies between two lines, rays, or segments

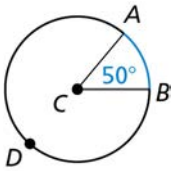
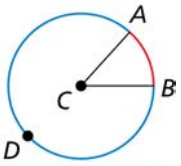
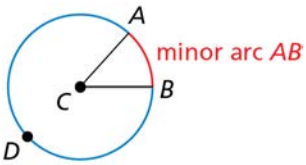
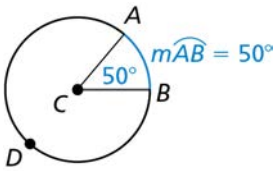
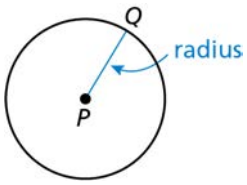
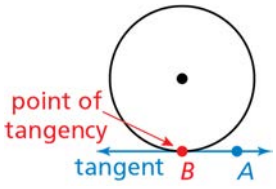
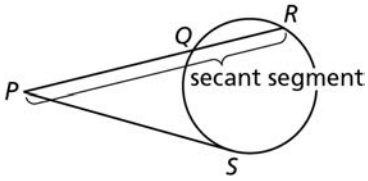
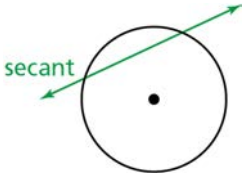


A polygon in which all of the vertices lie on a circle

Vocabulary Flash Cards

major arc *Chapter 10*	**measure of a major arc** *Chapter 10*
measure of a minor arc *Chapter 10*	**minor arc** *Chapter 10*
point of tangency *Chapter 10*	**radius of a circle** *Chapter 10*
secant *Chapter 10*	**secant segment** *Chapter 10*

Vocabulary Flash Cards

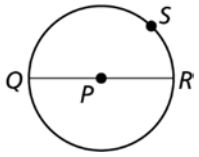
The measure of a major arc's central angle  $m\widehat{ADB} = 360° - 50° = 310°$	An arc with a measure greater than 180°  major arc *ADB*
An arc with a measure less than 180°  	The measure of a minor arc's central angle 
A segment whose endpoints are the center and any point on a circle  	The point at which a tangent line intersects a circle 
A segment that contains a chord of a circle, and has exactly one endpoint outside the circle  	A line that intersects a circle in two points 

Vocabulary Flash Cards

segments of a chord *Chapter 10*	**semicircle** *Chapter 10*
similar arcs *Chapter 10*	**standard equation of a circle** *Chapter 10*
subtend *Chapter 10*	**tangent of a circle** *Chapter 10*
tangent circles *Chapter 10*	**tangent segment** *Chapter 10*

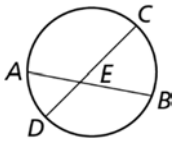
Vocabulary Flash Cards

An arc with endpoints that are the endpoints of a diameter



$\overset{\frown}{QSR}$ is a semicircle.

The segments formed from two chords that intersect in the interior of a circle

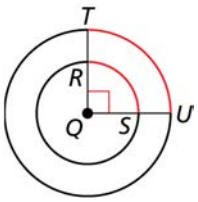


$\overline{EA}$ and $\overline{EB}$ are segments of chord $\overline{AB}$,
$\overline{DE}$ and $\overline{EC}$ are segments of chord $\overline{DC}$.

$(x - h)^2 + (y - k)^2 = r^2$, where r is the radius and (h, k) is the center

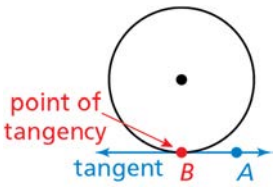
The standard equation of a circle with center (2, 3) and radius 4 is $(x - 2)^2 + (y - 3)^2 = 16$.

Arcs that have the same measure

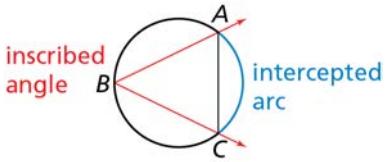


$\overset{\frown}{RS} \sim \overset{\frown}{TU}$

A line in the plane of a circle that intersects the circle at exactly one point

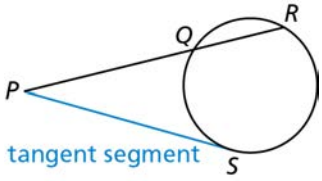


If the endpoints of a chord or arc lie on the sides of an inscribed angle, the chord or arc is said to subtend the angle.

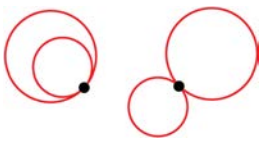


$\overset{\frown}{AC}$ subtends $\angle B$.
$\overline{AC}$ subtends $\angle B$.

A segment that is tangent to a circle at an endpoint



Coplanar circles that intersect in one point



Vocabulary Flash Cards

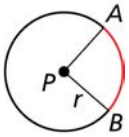
apothem of a regular polygon *Chapter 11*	**arc length** *Chapter 11*
center of a regular polygon *Chapter 11*	**central angle of a regular polygon** *Chapter 11*
circumference *Chapter 11*	**population density** *Chapter 11*
radian *Chapter 11*	**radius of a regular polygon** *Chapter 11*

Vocabulary Flash Cards

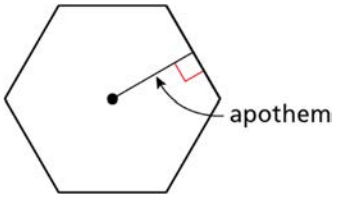
A portion of the circumference of a circle

$$\frac{\text{Arc length of } \overset{\frown}{AB}}{2\pi r} = \frac{m\overset{\frown}{AB}}{360^\circ}, \text{ or}$$

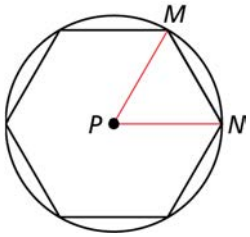
$$\text{Arc length of } \overset{\frown}{AB} = \frac{m\overset{\frown}{AB}}{360^\circ} \bullet 2\pi r$$



The distance from the center to any side of a regular polygon

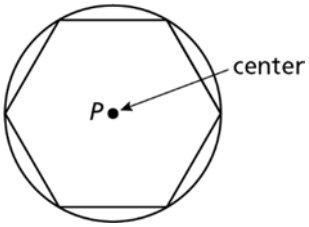


An angle formed by two radii drawn to consecutive vertices of a polygon



$\angle MPN$ is a central angle.

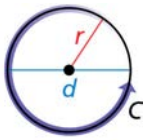
The center of a polygon's circumscribed circle



A measure of how many people live within a given area

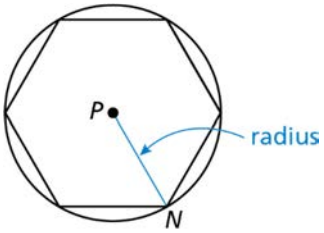
$$\text{population density} = \frac{\text{number of people}}{\text{area of land}}$$

The distance around a circle



$C = \pi d = 2\pi r$

The radius of a polygon's circumscribed circle



A unit of measurement for angles

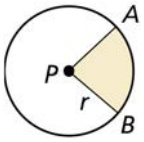
$$45^\circ = \frac{\pi}{4} \text{ radian}$$

sector of a circle

Chapter 11

Vocabulary Flash Cards

The region bounded by two radii of the circle and their intercepted arc



sector *APB*

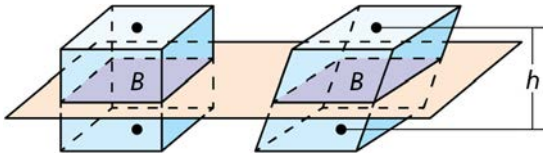
Vocabulary Flash Cards

axis of revolution *Chapter 12*	**Cavalieri's Principle** *Chapter 12*
chord of a sphere *Chapter 12*	**cross section** *Chapter 12*
density *Chapter 12*	**edge** *Chapter 12*
face *Chapter 12*	**great circle** *Chapter 12*

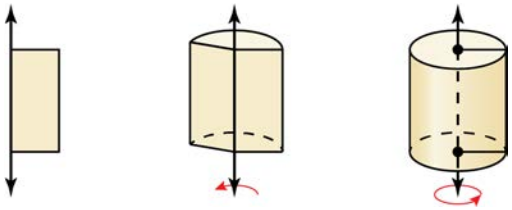
Vocabulary Flash Cards

If two solids have the same height and the same cross-sectional area at every level, then they have the same volume.

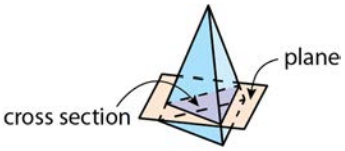
The prisms below have equal heights h and equal cross-sectional areas B at every level. By Cavalieri's Principle, the prisms have the same volume.



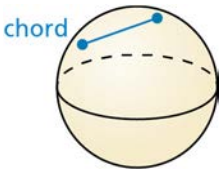
The line around which a two-dimensional shape is rotated to form a three-dimensional figure



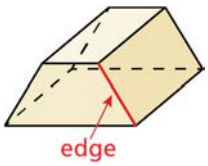
The intersection of a plane and a solid



A segment whose endpoints are on a sphere



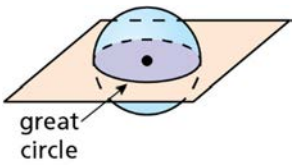
A line segment or curve formed by the intersection of two faces of a solid



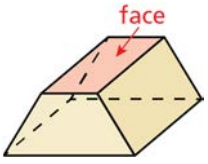
The amount of matter that an object has in a given unit of volume

$$\text{density} = \frac{\text{mass}}{\text{volume}}$$

The intersection of a plane and a sphere such that the plane contains the center of the sphere

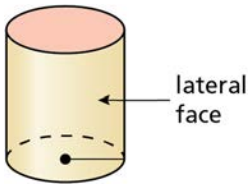
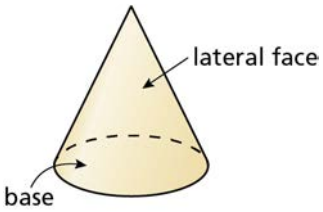
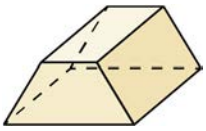
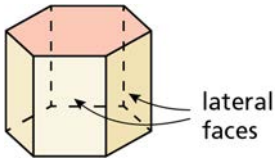
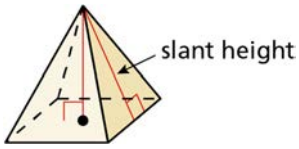
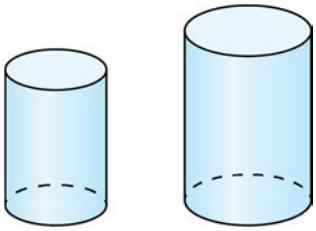
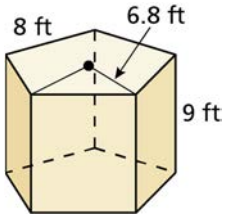
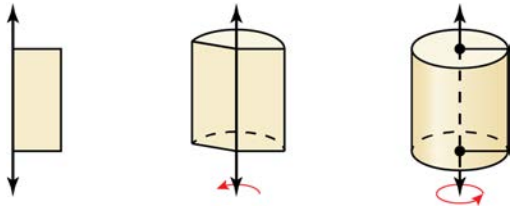


A flat or curved surface of a solid



lateral face of a cone *Chapter 12*	**lateral face of a cylinder** *Chapter 12*
lateral faces of a polyhedron *Chapter 12*	**polyhedron** *Chapter 12*
similar solids *Chapter 12*	**slant height of a regular pyramid** *Chapter 12*
solid of revolution *Chapter 12*	**surface area of a solid** *Chapter 12*

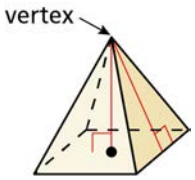
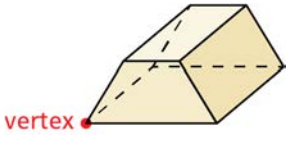
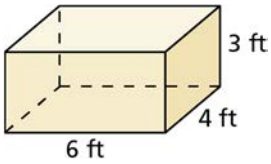
Vocabulary Flash Cards

The curved surface of a cylinder 	Consists of all segments that connect the vertex with points on the base edge of a cone 
A solid whose faces are all polygons 	The parallelograms formed by connecting the corresponding vertices of the bases 
The height of a lateral face of a regular pyramid 	Two solids of the same type with equal ratios of corresponding linear measures 
The sum of the areas of the faces  $S = aP + PH$ $= \left(\sqrt{30.24}\right)(40) + (40)(9)$ ≈ 580.0	A three-dimensional figure that is formed by rotating a two-dimensional shape around an axis 

Vocabulary Flash Cards

vertex of a polyhedron *Chapter 12*	**vertex of a pyramid** *Chapter 12*
volume *Chapter 12*	

Vocabulary Flash Cards

The common point of the lateral faces of a pyramid  	A point of a polyhedron where three or more edges meet 
	The number of cubic units contained in the interior of a solid  Volume $= 3(4)(6) = 72$ ft^3