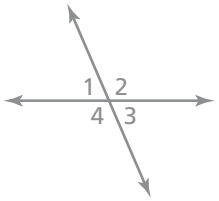
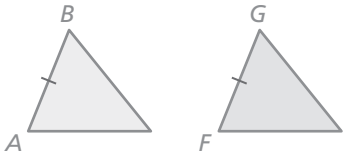
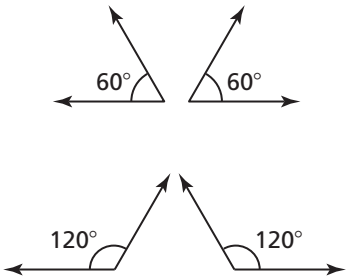
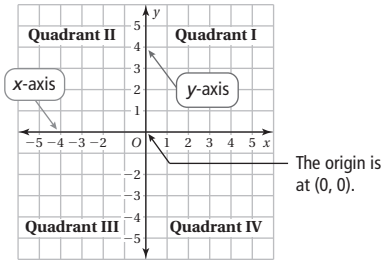
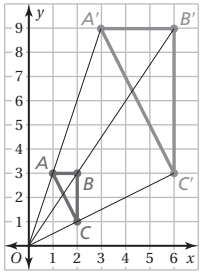
Vocabulary Flash Cards

adjacent angles *Review*	**center of a sphere** *Review*
congruent angles *Review*	**congruent sides** *Review*
coordinate plane *Review*	**degree** *Review*
dependent variable *Review*	**enlargement** *Review*

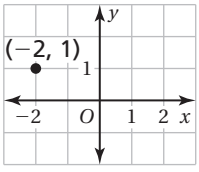
Vocabulary Flash Cards

The point inside a sphere that is the same distance from all points on the sphere *See sphere.*	Two angles that share a common side and have the same vertex  $\angle 1$ and $\angle 2$ are adjacent. $\angle 2$ and $\angle 4$ are not adjacent.
Sides that have the same length  Side *AB* and side *FG* are congruent sides.	Angles that have the same measure 
A unit used to measure angles 90°, 45°, 32°	A coordinate plane is formed by the intersection of a horizontal number line and a vertical number line. 
A dilation with a scale factor greater than 1  $A'B'C'$ is an enlargement of ABC.	The variable whose value depends on the independent variable in an equation in two variables In the equation $y = 5x - 8$, y is the dependent variable.

Vocabulary Flash Cards

equation *Review*	**equivalent equations** *Review*
evaluate (an algebraic expression) *Review*	**expression** *Review*
factor *Review*	**independent variable** *Review*
integers *Review*	**ordered pair** *Review*

Vocabulary Flash Cards

Equations that have the same solutions $2x - 8 = 0$ ***and*** $2x = 8$	A mathematical sentence that uses an equal sign to show that two expressions are equal $4x = 16,\ a + 7 = 21$
A mathematical phrase containing numbers, operations, and/or variables $12 + 6, 18 + 3 \times 4,$ $8 + x, 6 \times a - b$	Substitute a number for each variable in an algebraic expression. Then use the order of operations to find the value of the numerical expression. Evaluate $3x + 5$ when $x = 6.$ $3x + 5 = 3(6) + 5$ $= 18 + 5$ $= 23$
The variable representing the quantity that can change freely in an equation in two variables In the equation $y = 5x - 8,$ x is the independent variable.	When whole numbers other than zero are multiplied together, each number is a factor of the product. $2 \times 3 \times 4 = 24,$ so 2, 3, and 4 are factors of 24.
A pair of numbers (x, y) used to locate a point in a coordinate plane; The first number is the x-coordinate, and the second number is the y-coordinate.  The x-coordinate of the point $(-2, 1)$ is $-2,$ and the y-coordinate is 1.	The set of whole numbers and their opposites $\ldots -3, -2, -1, 0, 1, 2, 3, \ldots$

Vocabulary Flash Cards

origin *Review*	**parallel lines** *Review*
perpendicular lines *Review*	**polygon** *Review*
proportion *Review*	**proportional** *Review*
radius of a sphere *Review*	**rate** *Review*

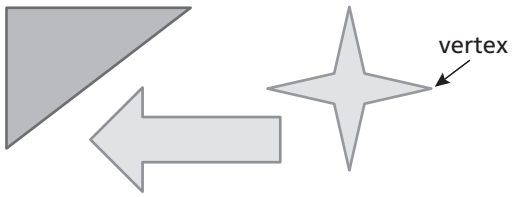
Vocabulary Flash Cards

Lines in the same plane that do not intersect;
Nonvertical parallel lines have the same slope.
All vertical lines are parallel.

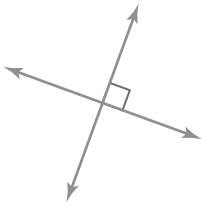
The point, represented by the ordered pair (0, 0), where the horizontal the vertical number lines intersect in a coordinate plane

See coordinate plane.

A closed figure in a plane that is made up of three or more line segments that intersect only at their endpoints



Lines in the same plane that intersect at right angles; Two nonvertical lines are perpendicular when the product of their slopes is -1. Vertical lines are perpendicular to horizontal lines.



Two quantities that form a proportion are proportional.

Because $\frac{3}{4}$ and $\frac{12}{16}$ form a proportion,

$\frac{3}{4}$ *and* $\frac{12}{16}$ *are proportional.*

An equation stating that two ratios are equivalent

$$\frac{3}{4} = \frac{12}{16}$$

A ratio of two quantities with different units

You read 3 books every 2 weeks.

The distance from the center of a sphere to any point on the sphere

See sphere.

Vocabulary Flash Cards

ratio *Review*	**rational number** *Review*
reduction *Review*	**right angle** *Review*
right triangle *Review*	**solid** *Review*
solution of an equation *Review*	**variable** *Review*

Vocabulary Flash Cards

A number that can be written as $\frac{a}{b}$ where a and b are integers and $b \neq 0$

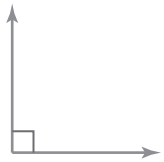
$3 = \frac{3}{1}$, $-\frac{2}{5} = \frac{-2}{5}$

$0.25 = \frac{1}{4}$, $1\frac{1}{3} = \frac{4}{3}$

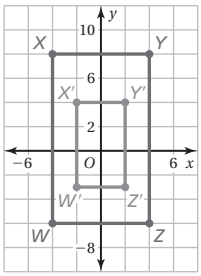
A comparison of two quantities using division; The ratio of a to b $(\text{where } b \neq 0)$ can be written as a to b, $a : b$, or $\frac{a}{b}$.

4 to 1, 4 : 1, or $\frac{4}{1}$

An angle whose measure is $90°$

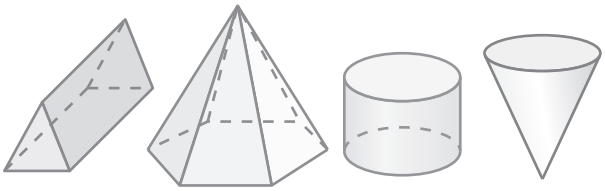


A dilation with a scale factor greater than 0 and less than 1

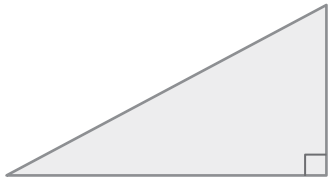


$W'X'Y'Z'$ is a reduction of $WXYZ$.

A three-dimensional figure that encloses a space



A triangle that has one right angle



A symbol that represents one or more numbers

x is a variable in $2x + 1$.

A value that makes an equation true

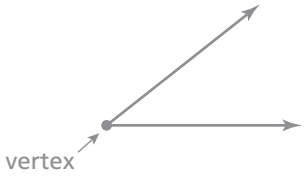
6 is the solution of the equation $x - 4 = 2$.

Vocabulary Flash Cards

vertex (of an angle) *Review*	**vertex (of a polygon)** *Review*
whole numbers *Review*	**x-axis** *Review*
x-coordinate *Review*	**y-axis** *Review*
y-coordinate *Review*	

Vocabulary Flash Cards

Vocabulary Flash Cards

A point at which two sides of a polygon meet; The plural of vertex is vertices. *See polygon.*	The point at which the two sides of an angle meet 
The horizontal number line in a coordinate plane *See coordinate plane.*	*The numbers* $0, 1, 2, 3, 4, \ldots$
The vertical number line in a coordinate plane *See coordinate plane.*	The first coordinate in an ordered pair, which indicates how many units to move to the left or right from the origin In the ordered pair $(3, 5)$, the x-coordinate is 3.
	The second coordinate in an ordered pair, which indicates how many units to move up or down from the origin In the ordered pair $(3, 5)$, the y-coordinate is 5.

Vocabulary Flash Cards

Vocabulary Flash Cards

Addition Property of Equality *Chapter 1*	**Division Property of Equality** *Chapter 1*
literal equation *Chapter 1*	**Multiplication Property of Equality** *Chapter 1*
Subtraction Property of Equality *Chapter 1*	

Vocabulary Flash Cards

Dividing each side of an equation by the same number produces an equivalent equation.

$$4x = -40$$
$$\frac{4x}{4} = \frac{-40}{4}$$
$$x = -10$$

Adding the same number to each side of an equation produces an equivalent equation.

$$x - 7 = -6$$
$$+7 \quad +7$$
$$x = 1$$

Multiplying each side of an equation by the same number produces an equivalent equation.

$$-\frac{2}{3}x = 8$$
$$-\frac{3}{2} \bullet \left(-\frac{2}{3}x\right) = -\frac{3}{2} \bullet 8$$
$$x = -12$$

An equation that has two or more variables

$$2y + 6x = 12$$

Subtracting the same number from each side of an equation produces an equivalent equation.

$$x + 10 = -12$$
$$-10 \quad -10$$
$$x = -22$$

Vocabulary Flash Cards

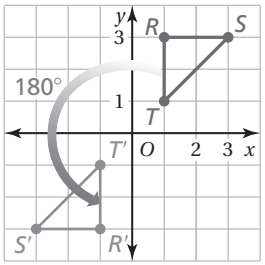
angle of rotation *Chapter 2*	**center of dilation** *Chapter 2*
center of rotation *Chapter 2*	**congruent figures** *Chapter 2*
corresponding angles *Chapter 2*	**corresponding sides** *Chapter 2*
dilation *Chapter 2*	**image** *Chapter 2*

Vocabulary Flash Cards

A point with respect to which a figure is dilated

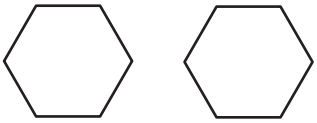
See dilation.

The number of degrees a figure rotates



$\triangle RST$ has been rotated 180° to $\triangle R'S'T'$.

Figures that have the same size and the same shape

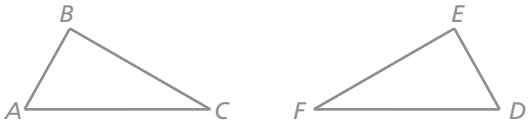


A point about which a figure is rotated

See rotation.

Matching sides of two congruent figures

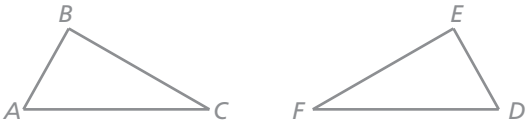
$\triangle ABC \cong \triangle DEF$



Corresponding sides: side AB and side DE
side BC and side EF
side AC and side DF

Matching angles of two congruent figures

$\triangle ABC \cong \triangle DEF$

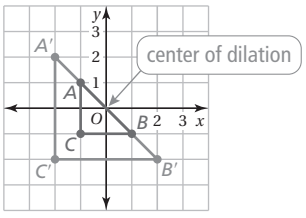


Corresponding angles: $\angle A$ and $\angle D$
$\angle B$ and $\angle E$
$\angle C$ and $\angle F$

The new figure formed by a transformation

See translation, reflection, rotation, and dilation.

A transformation in which a figure is made larger or smaller with respect to a fixed point called the center of dilation



$A'B'C'$ is a dilation of ABC with respect to the origin. The scale factor is 2.

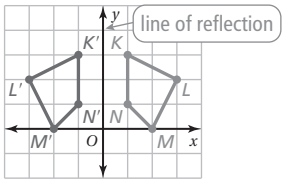
Vocabulary Flash Cards

line of reflection *Chapter 2*	**reflection** *Chapter 2*
rotation *Chapter 2*	**scale factor (of a dilation)** *Chapter 2*
similar figures *Chapter 2*	**transformation** *Chapter 2*
translation *Chapter 2*	

Vocabulary Flash Cards

Vocabulary Flash Cards

A transformation in which a figure is reflected in a line called the line of reflection; A reflection creates a mirror image of the original figure.



$K'L'M'N'$ is a reflection of *KLMN* over the *y*-axis.

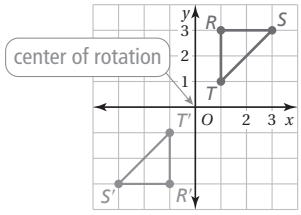
A line that a figure is reflected in to create a mirror image of the original figure

See reflection.

The ratio of the side lengths of the image of a dilation to the corresponding side lengths of the original figure

See dilation.

A transformation in which a figure is rotated about a point called the center of rotation; The number of degrees a figure rotates is the angle of rotation.

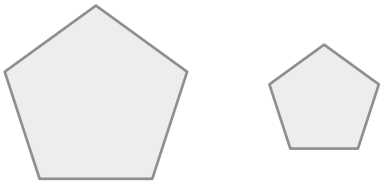


$\triangle RST$ has been rotated about the origin *O* to $\triangle R'S'T'$.

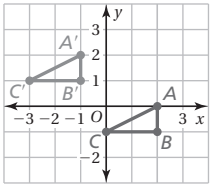
A transformation changes a figure into another figure.

See translation, reflection, rotation, and dilation.

Figures that have the same shape but not necessarily the same size; Two figures are similar when corresponding side lengths are proportional and corresponding angles are congruent.



A transformation in which a figure slides but does not turn; Every point of the figure moves the same distance and in the same direction.



ABC has been translated 3 units left and 2 units up to $A'B'C'$.

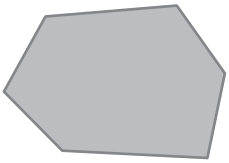
Vocabulary Flash Cards

Vocabulary Flash Cards

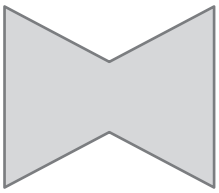
concave polygon *Chapter 3*	**convex polygon** *Chapter 3*
exterior angles *Chapter 3*	**exterior angles of a polygon** *Chapter 3*
indirect measurement *Chapter 3*	**interior angles** *Chapter 3*
interior angles of a polygon *Chapter 3*	**regular polygon** *Chapter 3*

Vocabulary Flash Cards

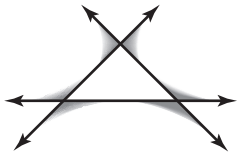
A polygon in which every line segment connecting any two vertices lies entirely inside the polygon



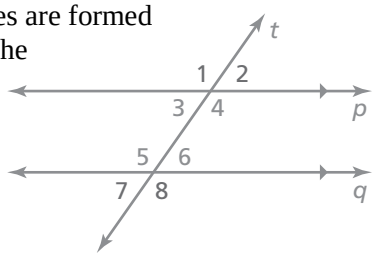
A polygon in which at least one line segment connecting any two vertices lies outside the polygon



The angles outside a polygon that are adjacent to the interior angles



When two parallel lines are cut by a transversal, four exterior angles are formed on the outside of the parallel lines.



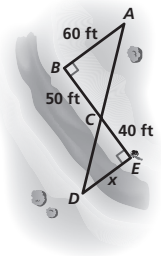
$\angle 3$, $\angle 4$, $\angle 5$, and $\angle 6$ are interior angles.

$\angle 1$, $\angle 2$, $\angle 7$, and $\angle 8$ are exterior angles.

When two parallel lines are cut by a transversal, four interior angles are formed on the inside of the parallel lines.

See exterior angles.

Indirect measurement uses similar figures to find a missing measure when it is difficult to find directly.



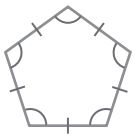
$$\frac{x}{60} = \frac{40}{50}$$

$$60 \bullet \frac{x}{60} = 60 \bullet \frac{40}{50}$$

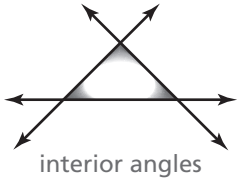
$$x = 48$$

The distance across the river is 48 feet.

A polygon in which all the sides are congruent, and all the interior angles are congruent



The angles inside a polygon



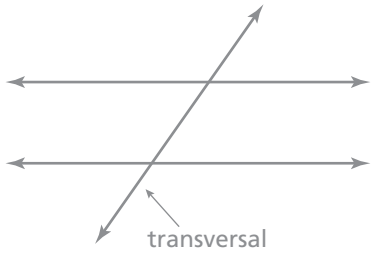
Vocabulary Flash Cards

transversal

Chapter 3

Vocabulary Flash Cards

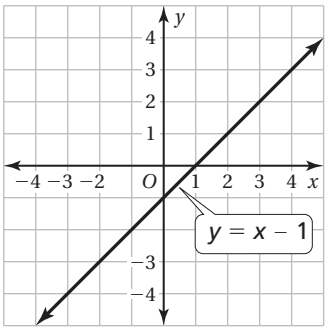
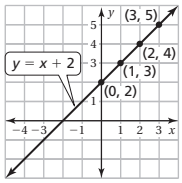
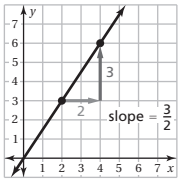
A line that intersects two or more lines



Vocabulary Flash Cards

linear equation *Chapter 4*	**point-slope form** *Chapter 4*
rise *Chapter 4*	**run** *Chapter 4*
slope *Chapter 4*	**slope-intercept form** *Chapter 4*
solution of a linear equation *Chapter 4*	**standard form** *Chapter 4*

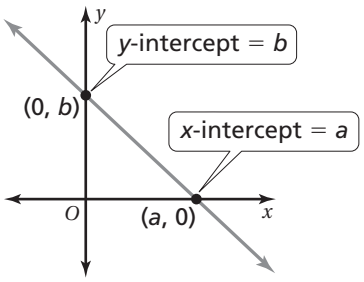
Vocabulary Flash Cards

A linear equation written in the form $y - y_1 = m(x - x_1)$ is in point-slope form. The line passes through the point (x_1, y_1), and the slope of the line is m. $y - 1 = \frac{2}{3}(x + 6)$	An equation whose graph is a line $y = x - 1$ 
The change in x between any two points on a line *See slope.*	The change in y between any two points on a line *See slope.*
A linear equation written in the form $y = mx + b$ is in slope-intercept form. The slope of the line is m, and the y-intercept of the line is b. The slope is 1 and the y-intercept is 2. 	The slope m of a line is a ratio of the change in y (the rise) to the change in x (the run) between any two points (x_1, y_1) and (x_2, y_2) on a line. It is a measure of the steepness of a line. $m = \frac{\text{rise}}{\text{run}} = \frac{\text{change in } y}{\text{change in } x}$ $= \frac{y_2 - y_1}{x_2 - x_1}$ 
The standard form of a linear equation is $ax + by = c$, where a and b are not both zero. $-2x + 3y = -6$	All of the points on a line

Vocabulary Flash Cards

x-intercept *Chapter 4*	**y-intercept** *Chapter 4*

Vocabulary Flash Cards

The *y*-coordinate of the point where a line crosses the *y*-axis *See x-intercept.*	The *x*-coordinate of the point where a line crosses the *x*-axis 

Vocabulary Flash Cards

solution of a system of linear equations *Chapter 5*	**system of linear equations** *Chapter 5*

Vocabulary Flash Cards

A set of two or more linear equations in the same variables, also called a linear system. $y = x + 1$ Equation 1 $y = 2x - 7$ Equation 2	An ordered pair that is a solution of each equation in a system $(1, -3)$ is the solution of the following system of linear equations. $4x - y = 7$ $2x + 3y = -7$

Vocabulary Flash Cards

function *Chapter 6*	**function rule** *Chapter 6*
input *Chapter 6*	**linear function** *Chapter 6*
mapping diagram *Chapter 6*	**nonlinear function** *Chapter 6*
output *Chapter 6*	**relation** *Chapter 6*

Vocabulary Flash Cards

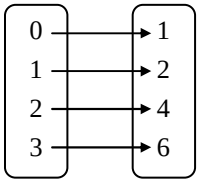
An equation that describes the relationship between inputs (independent variable) and outputs (dependent variable)

The function rule "The output is three less than the input" is represented by the equation $y = x - 3$.

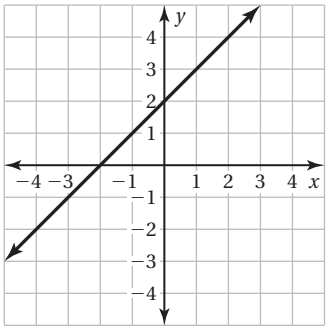
A relation that pairs each input with exactly one output

The ordered pairs $(0, 1)$, $(1, 2)$, $(2, 4)$, and $(3, 6)$ represent a function.

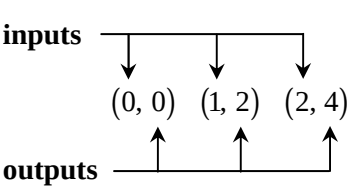
Ordered Pairs
$(0, 1)$
$(1, 2)$
$(2, 4)$
$(3, 6)$

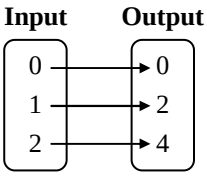


A function whose graph is a nonvertical line; a function that has a constant rate of change

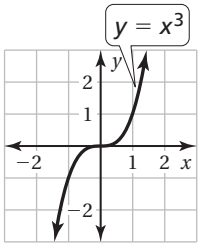


In a relation, inputs are associated with outputs.

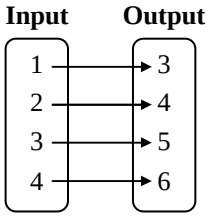




A function that does not have a constant rate of change; a function whose graph is not a line



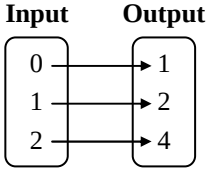
A way to represent a relation



A relation pairs inputs with outputs and can be represented by ordering pairs on a mapping diagram.

Ordered Pairs
$(0, 1)$
$(1, 2)$
$(2, 4)$

Mapping Diagram



In a relation, inputs are associated with outputs.

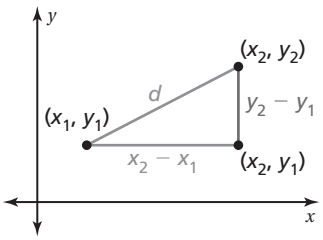
See input.

Vocabulary Flash Cards

cube root *Chapter 7*	**distance formula** *Chapter 7*
hypotenuse *Chapter 7*	**irrational number** *Chapter 7*
legs *Chapter 7*	**perfect cube** *Chapter 7*
perfect square *Chapter 7*	**Pythagorean Theorem** *Chapter 7*

Vocabulary Flash Cards

The distance d between any two points (x_1, y_1) and (x_2, y_2) is given by the formula



$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}.$$

A number that, when multiplied by itself, and then multiplied by itself again, equals a given number

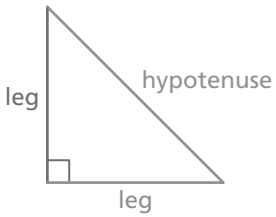
$\sqrt[3]{8} = 2$

$\sqrt[3]{-27} = -3$

A number that cannot be written as the ratio of two integers

$\pi, \sqrt{14}$

The side of a right triangle that is opposite the right angle



A number that can be written as the cube of an integer

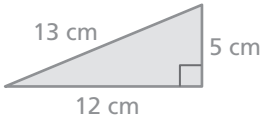
$-27, 8, 125$

The two sides of a right triangle that form the right angle

See hypotenuse.

In any right triangle, the sum of the squares of the lengths of the legs is equal to the square of the length of the hypotenuse.

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



$5^2 + 12^2 = 13^2$

A number with integers as its square roots

16, 25, 81

Vocabulary Flash Cards

radical sign *Chapter 7*	**radicand** *Chapter 7*
real numbers *Chapter 7*	**square root** *Chapter 7*
theorem *Chapter 7*	

Vocabulary Flash Cards

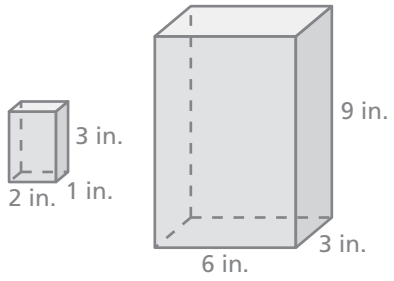
The number under a radical sign The radicand of $\sqrt{25}$ is 25.	The symbol $\sqrt{\ }$ which is used to represent a square root $\sqrt{25} = 5$ $-\sqrt{49} = -7$ $\pm\sqrt{100} = \pm 10$
A number that, when multiplied by itself, equals a given number The two square roots of 100 are 10 and −10. $\pm\sqrt{100} = \pm 10$	The set of all rational and irrational numbers $4, -6.5, \pi, \sqrt{14}$
	A rule in mathematics The Pythagorean Theorem

Vocabulary Flash Cards

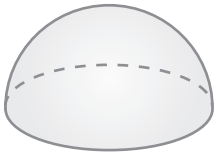
hemisphere *Chapter 8*	**similar solids** *Chapter 8*
sphere *Chapter 8*	

Vocabulary Flash Cards

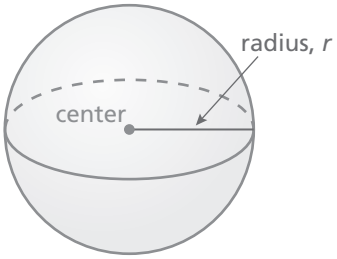
Solids that have the same shape and proportional corresponding dimensions



One-half of a sphere



The set of all points in space that are the same distance from a point called the center

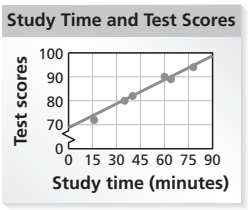


Vocabulary Flash Cards

joint frequency *Chapter 9*	**line of best fit** *Chapter 9*
line of fit *Chapter 9*	**marginal frequencies** *Chapter 9*
scatter plot *Chapter 9*	**two-way table** *Chapter 9*

Vocabulary Flash Cards

A precise line of fit that best models a set of data



Each entry in a two-way table

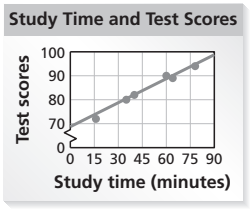
		Student	
		Studied	Did Not Study
Grade	Passed	21	2
	Failed	1	6

joint frequency

The sums of the rows and columns in a two-way table

		Age			
		12–13	14–15	16–17	Total
Student	Rides Bus	24	12	14	50
	Does Not Ride Bus	16	13	21	50
	Total	40	25	35	100

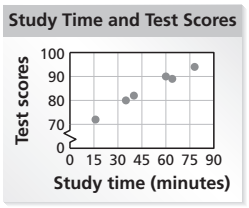
A line drawn on a scatter plot close to most of the data points; It can be used to estimate data on a graph.



Displays two categories of data collected from the same source

		Fundraiser	
		No	Yes
Gender	Female	22	51
	Male	30	29

A graph that shows the relationship between two data sets using ordered pairs in a coordinate plane



Vocabulary Flash Cards

base (of a power) *Chapter 10*	**exponent** *Chapter 10*
power *Chapter 10*	**Power of a Power Property** *Chapter 10*
Power of a Product Property *Chapter 10*	**Product of Powers Property** *Chapter 10*
Quotient of Powers Property *Chapter 10*	**scientific notation** *Chapter 10*

Vocabulary Flash Cards

The exponent of a power indicates the number of times a base is used as a factor. *See power.*	The base of a power is the common factor. *See power.*
To find a power of a power, multiply the exponents. $(3^4)^2 = 3^{4 \cdot 2} = 3^8$ $(a^m)^n = a^{mn}$	A product of repeated factors base, exponent $\underbrace{\left(\frac{1}{2}\right)^5} = \underbrace{\frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2}}$ power $\frac{1}{2}$ is used as a factor 5 times.
To multiply powers with the same base, add their exponents. $3^7 \cdot 3^{10} = 3^{7+10} = 3^{17}$ $a^m \cdot a^n = a^{m+n}$	To find a power of a product, find the power of each factor and multiply. $(5 \cdot 7)^4 = 5^4 \cdot 7^4$ $(ab)^m = a^m b^m$
A number is written in scientific notation when it is represented as the product of a factor and a power of 10. The factor must be greater than or equal to 1 and less than 10. 8.3×10^4 4×10^{-3}	To divide powers with the same base, subtract their exponents. $\frac{9^7}{9^3} = 9^{7-3} = 9^4$ $\frac{a^m}{a^n} = a^{m-n}$, where $a \neq 0$

Vocabulary Flash Cards