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

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.

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

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.

$$x + 10 = -12$$

$$-10 - 10$$

$$x = -22$$

Vocabulary Flash Cards angle of rotation center of dilation Chapter 2 Chapter 2 center of rotation congruent angles Chapter 2 Chapter 2 congruent sides congruent figures Chapter 2 Chapter 2 dilation image Chapter 2 Chapter 2

A point with respect to which a figure is dilated The number of degrees a figure rotates about a point See dilation. $\triangle RST$ has been rotated 180° 180° to $\triangle R'S'T'$. 0 Angles that have the same measure The point about which a figure is rotated See rotation. Sides that have the same length Figures that have the same size and the same shape Side AB and side FG are congruent sides. The new figure produced when a figure is A transformation in which a figure is made larger transformed or smaller with respect to a fixed point called the center of dilation A'B'C' is a dilation center of dilation of ABC with respect B 2 3 x to the origin. The scale The figure on the right is the image of the factor is 2. figure on the left.

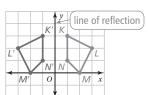
Vocabulary Flash Cards line of reflection reflection Chapter 2 Chapter 2 rigid motion rotation Chapter 2 Chapter 2 similar figures scale factor (of a dilation) Chapter 2 Chapter 2 similarity transformation transformation

Chapter 2

Chapter 2

A flip; 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.

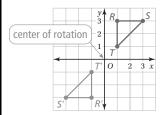
K'L'M'N' is a reflection of KLMN over the y-axis.



A line in which a transformed figure is reflected

See reflection.

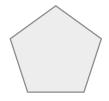
A turn; a transformation in which a figure is rotated about a point called the center of rotation; The number of degrees a figure rotates is the angle of rotation.



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

A transformation that preserves length and angle measure

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.





The value of the ratio of the side lengths of the image to the corresponding side lengths of the original figure

The dilation represented by $(x, y) \rightarrow (3x, 3y)$ involves a scale factor of k = 3.

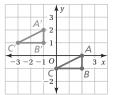
A change in the size, shape, position, or orientation of a figure

See translation, reflection, rotation, and dilation.

A dilation or a sequence of rigid motions and dilations

Vocabulary Flash Cards	
translation	
	Chapter 2

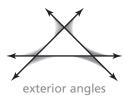
A slide; a transformation that shifts a figure horizontally and/or vertically, but does not change its size, shape, or orientation



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

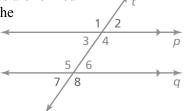
Vocabulary Flash Cards exterior angles exterior angles of a polygon Chapter 3 Chapter 3 indirect measurement interior angles Chapter 3 Chapter 3 regular polygon interior angles of a polygon Chapter 3 Chapter 3 transversal Chapter 3

The angles adjacent to the interior angles when the sides of a polygon are extended



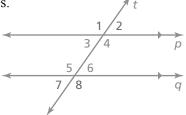
When two parallel lines are cut by a transversal, four exterior angles are formed

on the outside of the parallel lines.



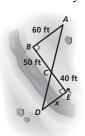
 $\angle 1$, $\angle 2$, $\angle 7$, and $\angle 8$ are exterior angles.

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



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

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



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

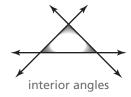
$$60 \cdot \frac{x}{60} = 60 \cdot \frac{40}{50}$$

$$x = 48$$

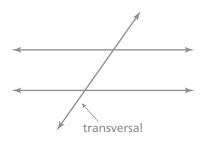
A polygon in which all the sides are congruent, and all the interior angles are congruent



The angles inside a polygon



A line that intersects two or more lines



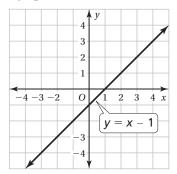
Vocabulary Flash Cards linear equation point-slope form Chapter 4 Chapter 4 rise run Chapter 4 Chapter 4 slope-intercept form slope Chapter 4 Chapter 4 solution of a linear equation standard form

A linear equation written in the form $y - y_1 = m(x - x_1)$; The graph of the equation is a line that passes through the point (x_1, y_1) , and has the slope m.

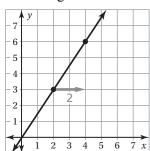
$$y - 1 = \frac{2}{3}(x + 6)$$

An equation whose graph is a line

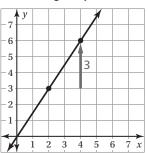
$$v = x - 1$$



The change in x between any two points on a line



The change in y between any two points on a line



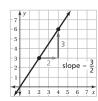
A linear equation written in the form y = mx + b; The graph of the equation is a line that has a slope of m and a y-intercept of b.

The slope is 1 and the *y*-intercept is 2.



The value of a ratio of the change in y (the rise) to the change in x (the run) between any two points on a line; Slope is a measure of the steepness of a line.

$$m = \frac{\text{rise}}{\text{run}} = \frac{\text{change in } y}{\text{change in } x}$$
$$= \frac{y_2 - y_1}{x_2 - x_1}$$



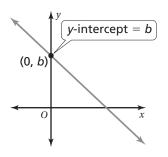
The standard form of a linear equation is Ax + By = C, where A and B are not both zero.

$$-2x + 3y = -6$$

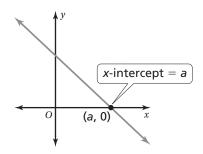
An ordered pair (x, y) that makes an equation true

Vocabulary Flash Cards			
<i>x</i> -intercept		<i>y</i> -intercept	
	Chapter 4		Chapter 4

The *y*-coordinate of the point where a line crosses the *y*-axis



The *x*-coordinate of the point where a line crosses the *x*-axis



solution of a system of linear equations (in two variables)

system of linear equations

Chapter 5

Chapter 5

A set of two or more linear equations in the same variables

$$y = x + 1$$
 Equation 1
 $y = 2x - 7$ Equation 2

An ordered pair that is a solution of each equation in the system

(1,-3) is the solution of the following system of linear equations.

$$4x - y = 7$$
$$2x + 3y = -7$$

Joint frequency line of best fit

Chapter 6

Chapter 6 marginal frequency

Chapter 6

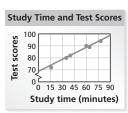
Scatter plot

Chapter 6

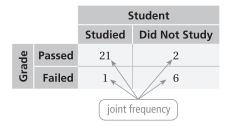
Chapter 6

Chapter 6

Out of all possible lines of fit, the line that best models a set of data



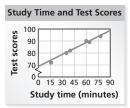
Each entry in a two-way table



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
Stuc	Does Not Ride Bus	16	13	21	50
	Total	40	25	35	100

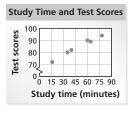
A line drawn on a scatter plot close to most of the data points; The line can be used to estimate data on a graph.



A frequency table that displays two categories of data collected from the same source

		Fundraiser	
		No	Yes
Gender	Female	22	51
Gen	Male	30	29

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

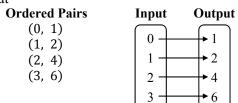


Vocabulary Flash Cards function function rule Chapter 7 Chapter 7 input linear function Chapter 7 Chapter 7 nonlinear function mapping diagram Chapter 7 Chapter 7 relation output Chapter 7 Chapter 7

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

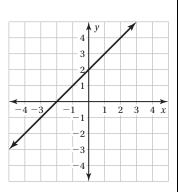
The function rule "The output is three less than the input" is represented by the equation y = x - 3.

A relation that pairs each input with exactly one output

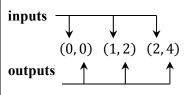


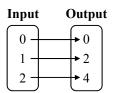
The ordered pairs (0, 1), (1, 2), (2, 4), and (3, 6) represent a function.

A function whose graph is a non-vertical line; A linear function has a constant rate of change.

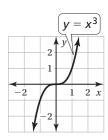


In a relation, inputs are values associated with outputs.

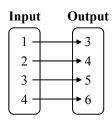




A function that does not have a constant rate of change; a function whose graph is not a line

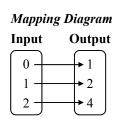


A way to represent a relation

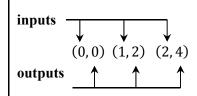


A pairing of inputs with outputs; can be represented by ordering pairs on a mapping diagram.

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



In a relation, outputs are the values associated with inputs.

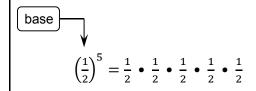


Vocabulary Flash Cards base (of a power) exponent Chapter 8 Chapter 8 **Power of a Power Property** power Chapter 8 Chapter 8 **Power of a Product Property Product of Powers Property** Chapter 8 Chapter 8 scientific notation **Quotient of Powers Property** Chapter 8 Chapter 8

The exponent of a power indicates the number of times a base is used as a factor.

exponent $\left(\frac{1}{2}\right)^5 = \frac{1}{2} \bullet \frac{1}{2} \bullet \frac{1}{2} \bullet \frac{1}{2} \bullet \frac{1}{2} \bullet$

The base of a power is the repeated factor.



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

$$\underbrace{\left(\frac{1}{2}\right)^{5}}_{power} = \underbrace{\frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2}}_{\frac{1}{2} \text{ is used as a factor 5 times.}}$$

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.

$$(5 \bullet 7)^4 = 5^4 \bullet 7^4$$

 $(ab)^m = a^m b^m$

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.

$$8.3 \times 10^4$$
$$4 \times 10^{-3}$$

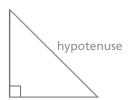
To divide powers with the same base, subtract their exponents.

$$\frac{9^7}{9^3} = 9^{7-3} = 9^4$$

$$\frac{a^m}{a^n} = a^{m-n}$$
, where $a \neq 0$

Vocabulary Flash Cards cube root hypotenuse Chapter 9 Chapter 9 irrational number legs Chapter 9 Chapter 9 perfect square perfect cube Chapter 9 Chapter 9 **Pythagorean Theorem** radical sign Chapter 9 Chapter 9

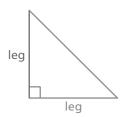
The side of a right triangle that is opposite the right angle



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

$$\sqrt[3]{8} = 2$$
 $\sqrt[3]{-27} = -3$

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



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

$$\pi$$
, $\sqrt{14}$

A number with integers as its square roots

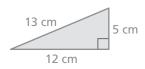
A number that can be written as the cube of an integer

$$-27, 8, 125$$

The symbol $\sqrt{}$ which is used to represent a square root

$$\sqrt{25} = 5$$
$$-\sqrt{49} = -7$$
$$\pm\sqrt{100} = \pm 10$$

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



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

radicand real numbers

Chapter 9

Chapter 9

Chapter 9

Chapter 9

The set of all rational and irrational numbers	The number under a radical sign
$4, -6.5, \pi, \sqrt{14}$	The radicand of $\sqrt{25}$ is 25.
A rule in mathematics	A number that, when multiplied by itself, equals a given number
The Pythagorean Theorem	The two square roots of 100 are 10 and -10. $\pm\sqrt{100} = \pm10$

Cone hemisphere

Chapter 10

Chapter 10

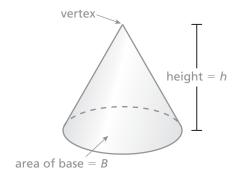
Chapter 10

Chapter 10

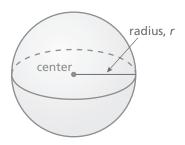
One-half of a sphere



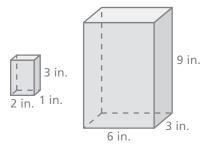
A solid that has one circular base and one vertex



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



Two solids of the same type with equal ratios of corresponding linear measures



Vocabulary Flash Cards Addition Property Addition Property of Equality of Inequality Chapter A Chapter A **Division Property Division Property** of Equality of Inequality Chapter A Chapter A graph of an inequality equivalent equations Chapter A Chapter A inequality **Multiplication Property** of Equality Chapter A Chapter A

When you add the same number to each side of an inequality, the inequality remains true.

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

$$x - 5 = -1$$

$$+ 5$$

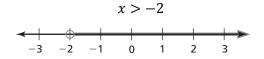
$$x = 4$$

When you divide each side of an inequality by the same positive number, the inequality remains true. When you divide each side of an inequality by the same negative number, the direction of the inequality symbol must be reversed for the inequality to remain true.

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

$$-3y = 18$$
$$\frac{-3y}{-3} = \frac{18}{-3}$$
$$y = -6$$

A graph that shows all the solutions of an inequality on a number line



Equations that have the same solutions

$$2x - 8 = 0$$
 and $2x = 8$

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

$$\frac{x}{4} = -6$$

$$4 \cdot \frac{x}{4} = 4 \cdot (-6)$$

$$x = -24$$

A mathematical sentence that compares expressions; contains the symbols <, >, \leq , or \geq

$$x - 4 < 14$$
, $x + 5 \ge -12$

Vocabulary Flash Cards Multiplication Property solution of an inequality of Inequality Chapter A Chapter A solution set **Subtraction Property** of Equality Chapter A Chapter A **Subtraction Property**

of Inequality

Chapter A

Α	value	that	makes	an	inea	mality	true
7 L	varuc	uiui	mancs	un	11104	luuiity	uuc

A solution of the inequality x + 3 > -9 is x = 2.

When you multiply each side of an inequality by the same positive number, the inequality remains true.

When you multiply each side of an inequality by the same negative number, the direction of the inequality symbol must be reversed for the inequality to remain true.

$$\frac{x}{2} < -9$$

$$2 \cdot \frac{x}{2} < 2 \cdot (-9)$$

$$x < -18$$

$$\frac{x}{-6} < 3$$

$$x < -18$$

$$x > -18$$

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

$$w + 5 = 25$$

$$-5 - 5$$

$$w = 20$$

The set of all solutions of an inequality

When you subtract the same number from each side of an inequality, the inequality remains true.

$$x + 7 > -20$$

$$\frac{-7}{x} > \frac{-7}{-27}$$

Vocabulary Flash Cards compound event event Chapter B Chapter B experimental probability experiment Chapter B Chapter B **Fundamental Counting** favorable outcomes **Principle** Chapter B Chapter B outcomes probability Chapter B Chapter B

A collection of one or more outcomes Flipping heads on a coin	A compound event consists of one or more events. The probability of a compound event is the quotient of the number of favorable outcomes and the number of possible outcomes. Spinning a 3 on a spinner and flipping heads on a coin
A probability based on repeated trials of an experiment $P(\text{event}) = \frac{\text{number of times the event occurs}}{\text{total number of trials}}$ A basketball player makes 19 baskets in 28 attempts. The experimental probability that the player makes a basket is $\frac{19}{28}$, or about 68%.	An investigation or a procedure that has varying results Rolling a number cube
A way to find the total number of possible outcomes; An event M has m possible outcomes and event N has n possible outcomes. The total number of outcomes of event M followed by event N is $m \times n$. You have 7 shirts, 5 pairs of pants, and 2 pairs of shoes. You can make $7 \times 5 \times 2 = 70$ different outfits.	The outcomes of a specific event When rolling a number cube, the favorable outcomes for the event "rolling an even number" are 2, 4, and 6.
A measure of the likelihood, or chance, that an event will occur Impossible Equally likely to happen or not happen Certain	The possible results of an experiment The outcomes of flipping a coin are heads and tails.

relative frequency

Sample space

Chapter B

Chapter B

simulation

theoretical probability

Chapter B

Chapter B

The set of all possible outcomes of one or more events You flip a coin twice. The outcomes in the sample space are HH, HT, TH, and TT.	The fraction or percent of the time that an event occurs in an experiment You flip a coin 20 times. If you flip heads 11 times, the relative frequency of flipping heads is $\frac{11}{20}$, or 55%.
The quotient of the number of favorable outcomes and the number of possible outcomes when all possible outcomes are equally likely $P(\text{event}) = \frac{\text{number of favorable outcomes}}{\text{number of possible outcomes}}$ When rolling a number cube, the theoretical probability of rolling a 4 is $\frac{1}{6}$.	An experiment that is designed to reproduce the conditions of a situation or process so that the simulated outcomes closely match the real-world outcomes

biased sample population

Chapter C Chapter C

Chapter C

Chapter C

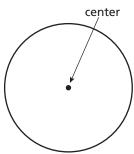
Chapter C

Chapter C

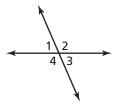
A population is an entire group of people or objects. Population: All of the 14-year-old females in the United States Sample: All of the 14-year-old females in your town	A sample that is not representative of a population You want to estimate the number of students in your school who like to play basketball. You survey 100 students at a basketball game.
A sample that is representative of a population You want to estimate the number of students in your school who like to play basketball. You survey 100 students at random during lunch.	A part of a population Population: All of the potted plants from a department store Sample: 10 potted plants from the department store

Vocabulary Flash Cards adjacent angles center (of a circle) Chapter D Chapter D circle circumference Chapter D Chapter D composite figure complementary angles Chapter D Chapter D diameter (of a circle) $pi(\pi)$ Chapter D Chapter D

The point inside a circle that is the same distance from all points on the circle



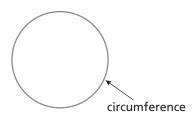
Two angles that share a common side and have the same vertex



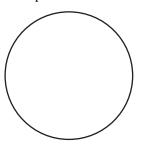
 $\angle 1$ and $\angle 2$ are adjacent.

 $\angle 2$ and $\angle 4$ are not adjacent.

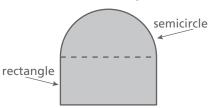
The distance around a circle



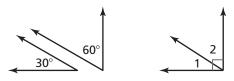
The set of all points in a plane that are the same distance from a point called the center



A figure made up of triangles, squares, rectangles, and other two-dimensional figures



Two angles whose measures have a sum of 90°



The ratio of the circumference of a circle to its diameter

The value of π can be approximated as 3.14 or $\frac{22}{7}$.

The distance across a circle through the center



radius (of a circle)

Chapter D

Chapter D

Chapter D

Chapter D

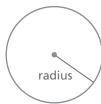
Chapter D

Chapter D

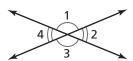
One-half of a circle



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



Opposite angles formed by the intersection of two lines



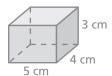


Two angles whose measures have a sum of 180°

∠1 and ∠3 are vertical angles. ∠2 and ∠4 are vertical angles.

Vocabulary Flash Cards	
cross section	lateral surface area (of a prism)
Chapter E	Chapter E
regular pyramid	slant height (of a pyramid)
Chapter E	Chapter E

The sum of the areas of the lateral faces of a prism

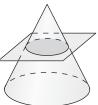


Lateral surface area =
$$2(4)(3) + 2(5)(3)$$

= $24 + 30 = 54 \text{ cm}^2$

The intersection of a plane and a solid

The intersection of the plane and the cone is a circle.



The height of each lateral triangular face of a pyramid



A pyramid whose base is a regular polygon

