

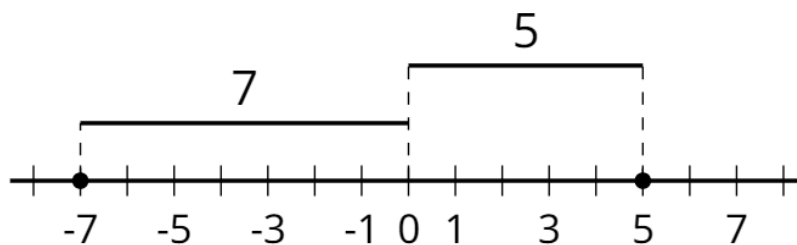
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- positive number
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absolute value

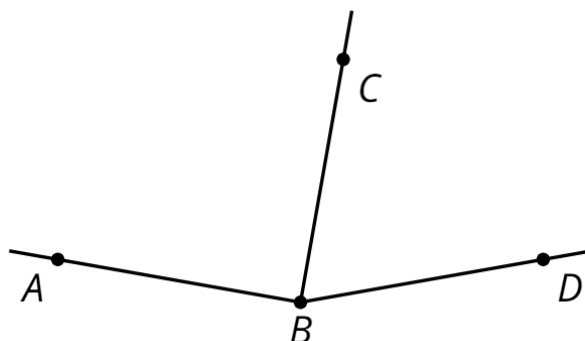
The absolute value of a number is its distance from 0 on the number line.



The absolute value of -7 is 7 , because it is 7 units away from 0 . The absolute value of 5 is 5 , because it is 5 units away from 0 .

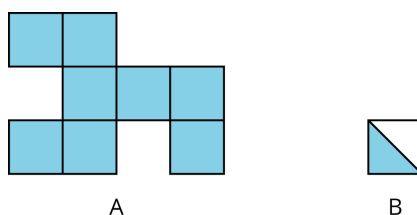
adjacent angles

Adjacent angles share a side and a vertex. In this diagram, angle ABC is adjacent to angle DBC .



area

Area is the number of square units that cover a two-dimensional region, without any gaps or overlaps. For example, the area of region A is 8 square units. The area of the shaded region of B is $\frac{1}{2}$ square unit.



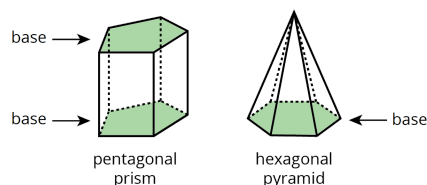
area of a circle

If the radius of a circle is r units, then the area of the circle is πr^2 square units.

For example, a circle has radius 3 inches. Its area is $\pi 3^2$ square inches, or 9π square inches, which is approximately 28.3 square inches.

base (of a prism or pyramid)

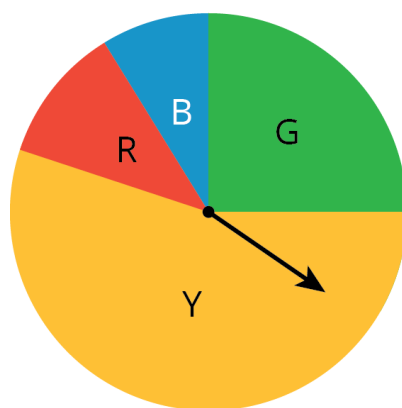
The word *base* can also refer to a face of a polyhedron. A prism has two identical bases that are parallel. A pyramid has one base. A prism or pyramid is named for the shape of its base.



chance experiment

A chance experiment is something you can do over and over again, and you don't know what will happen each time.

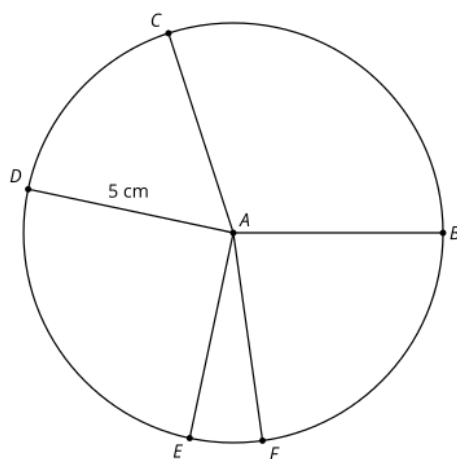
For example, each time you spin the spinner, it could land on red, yellow, blue, or green.



circle

A circle is made out of all the points that are the same distance from a given point.

For example, every point on this circle is 5 cm away from point *A*, which is the center of the circle.



circumference

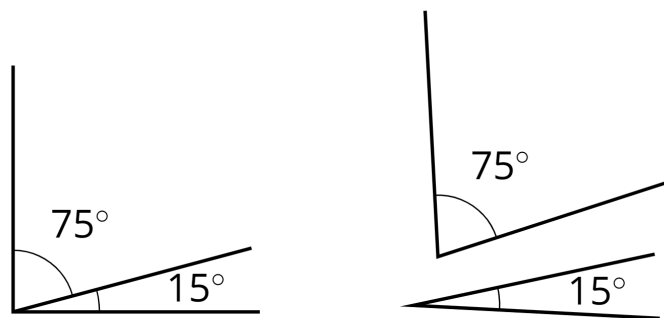
The circumference of a circle is the distance around the circle. If you imagine the circle as a piece of string, it is the length of the string. If the circle has radius r then the circumference is $2\pi r$.

The circumference of a circle of radius 3 is $2 \cdot \pi \cdot 3$, which is 6π , or about 18.85.

complementary

Complementary angles have measures that add up to 90 degrees.

For example, a 15° angle and a 75° angle are complementary.



constant of proportionality

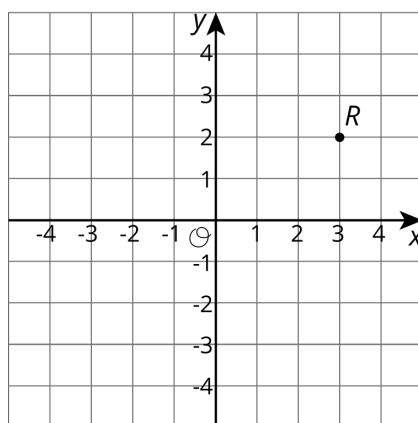
In a proportional relationship, the values for one quantity are each multiplied by the same number to get the values for the other quantity. This number is called the constant of proportionality.

In this example, the constant of proportionality is 3, because $2 \cdot 3 = 6$, $3 \cdot 3 = 9$, and $5 \cdot 3 = 15$. This means that there are 3 apples for every 1 orange in the fruit salad.

number of oranges	number of apples
2	6
3	9
5	15

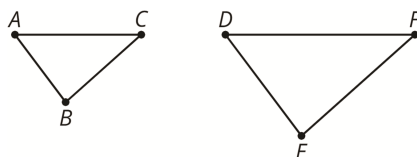
coordinate plane

The coordinate plane is a system for telling where points are. For example, point R is located at $(3, 2)$ on the coordinate plane, because it is three units to the right and two units up.



corresponding

When part of an original figure matches up with part of a copy, we call them corresponding parts. These could be points, segments, angles, or distances. For example, point B in the first triangle corresponds to point E in the second triangle. Segment AC corresponds to segment DF .



cross section

A cross section is the new face you see when you slice through a three-dimensional figure.

For example, if you slice a rectangular pyramid parallel to the base, you get a smaller rectangle as the cross section.

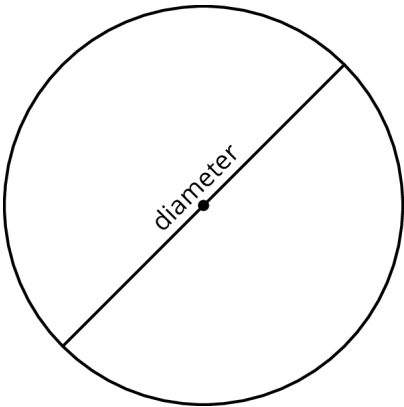
deposit

When you put money into an account, it is called a *deposit*.

For example, a person added \$60 to their bank account. Before the deposit, they had \$435. After the deposit, they had \$495, because $435 + 60 = 495$.

diameter

A diameter is a line segment that goes from one edge of a circle to the other and passes through the center. A diameter can go in any direction. Every diameter of the circle is the same length. We also use the word *diameter* to mean the length of this segment.



equivalent expressions

Equivalent expressions are always equal to each other. If the expressions have variables, they are equal whenever the same value is used for the variable in each expression.

For example, $3x + 4x$ is equivalent to $5x + 2x$. No matter what value we use for x , these expressions are always equal. When x is 3, both expressions equal 21. When x is 10, both expressions equal 70.

equivalent ratios

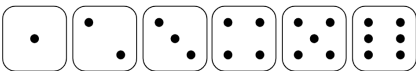
Two ratios are equivalent if you can multiply each of the numbers in the first ratio by the same factor to get the numbers in the second ratio. For example, $8 : 6$ is equivalent to $4 : 3$, because $8 \cdot \frac{1}{2} = 4$ and $6 \cdot \frac{1}{2} = 3$.

A recipe for lemonade says to use 8 cups of water and 6 lemons. If we use 4 cups of water and 3 lemons, it will make half as much lemonade. Both recipes taste the same, because $8 : 6$ and $4 : 3$ are equivalent ratios.

cups of water	number of lemons
8	6
4	3

event

An event is a set of one or more outcomes in a chance experiment. For example, if we roll a number cube, there are six possible outcomes.



Examples of events are “rolling a number less than 3,” “rolling an even number,” or “rolling a 5.”

expand

To expand an expression, we use the distributive property to rewrite a product as a sum. The new expression is equivalent to the original expression. For example, we can expand the expression $5(4x + 7)$ to get the equivalent expression $20x + 35$.

factor (an expression)

To factor an expression, we use the distributive property to rewrite a sum as a product. The new expression is equivalent to the original expression. For example, we can factor the expression $20x + 35$ to get the equivalent expression $5(4x + 7)$.

interquartile range (IQR)

The interquartile range is one way to measure how spread out a data set is. We sometimes call this the IQR. To find the interquartile range we subtract the first quartile from the third quartile.

For example, the IQR of this data set is 20 because $50 - 30 = 20$.

22	29	30	31	32	43	44	45	50	50	59
		Q1			Q2			Q3		

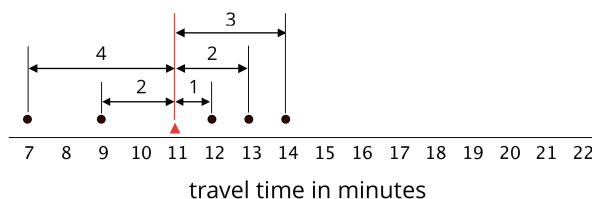
long division

Long division is a way to show the steps for dividing numbers in decimal form. It finds the quotient one digit at a time, from left to right. For example, here is the long division for $57 \div 4$.

$$\begin{array}{r} 14.25 \\ 4 \overline{) 57.00} \\ \underline{-4} \\ 17 \\ \underline{-16} \\ 10 \\ \underline{-8} \\ 20 \\ \underline{-20} \\ 0 \end{array}$$

mean

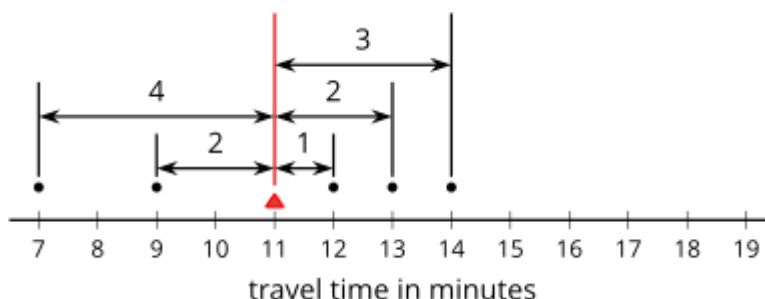
The mean is one way to measure the center of a data set. We can think of it as a balance point. For example, for the data set 7, 9, 12, 13, 14, the mean is 11.



To find the mean, add up all the numbers in the data set. Then, divide by how many numbers there are. $7 + 9 + 12 + 13 + 14 = 55$ and $55 \div 5 = 11$.

mean absolute deviation (MAD)

The mean absolute deviation is one way to measure how spread out a data set is. Sometimes we call this the MAD. For example, for the data set 7, 9, 12, 13, 14, the MAD is 2.4. This tells us that these travel times are typically 2.4 minutes away from the mean, which is 11.



To find the MAD, add up the distance between each data point and the mean. Then, divide by how many numbers there are.

$4 + 2 + 1 + 2 + 3 = 12$ and $12 \div 5 = 2.4$.

measurement error

Measurement error is the positive difference between a measured amount and the actual amount.

For example, Diego measures a line segment and gets 5.3 cm. The actual length of the segment is really 5.32 cm. The measurement error is 0.02 cm, because $5.32 - 5.3 = 0.02$.

median

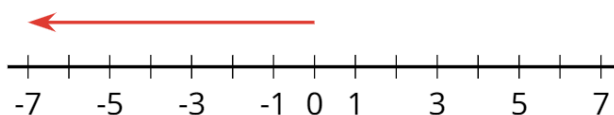
The median is one way to measure the center of a data set. It is the middle number when the data set is listed in order.

For the data set 7, 9, 12, 13, 14, the median is 12.

For the data set 3, 5, 6, 8, 11, 12, there are two numbers in the middle. The median is the average of these two numbers. $6 + 8 = 14$ and $14 \div 2 = 7$.

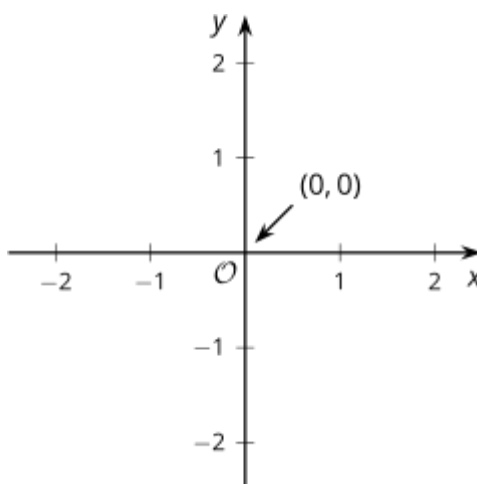
negative number

A negative number is a number that is less than zero. On a horizontal number line, negative numbers are usually shown to the left of 0.



origin

The origin is the point (0, 0) in the coordinate plane. This is where the horizontal axis and the vertical axis cross.

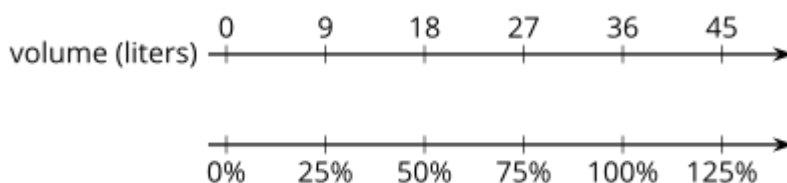


outcome

An outcome of a chance experiment is one of the things that can happen when you do the experiment. For example, the possible outcomes of tossing a coin are heads and tails.

percentage

A percentage is a rate per 100. For example, a fish tank can hold 36 liters. Right now there is 27 liters of water in the tank. The percentage of the tank that is full is 75%.

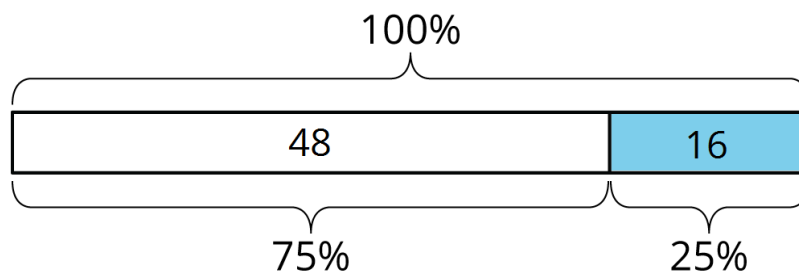


percent decrease

A percentage decrease tells how much a quantity went down, expressed as a percentage of the starting amount.

For example, a store had 64 hats in stock on Friday. They had 48 hats left on Saturday. The amount went down by 16.

This was a 25% decrease, because 16 is 25% of 64.



percent error

Percent error is a way to describe error, expressed as a percentage of the actual amount.

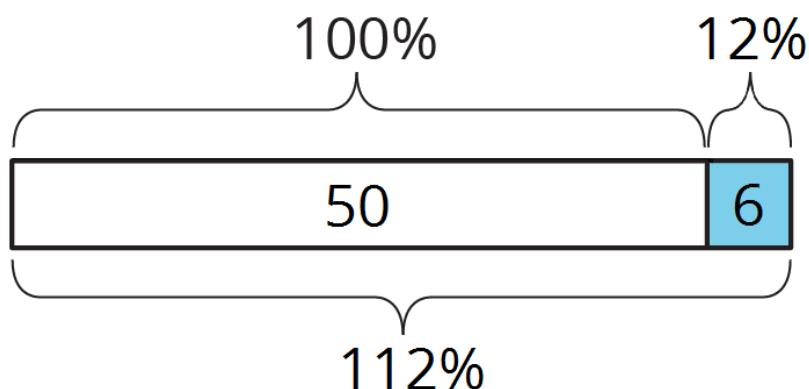
For example, a box is supposed to have 150 folders in it. Clare counts only 147 folders in the box. This is an error of 3 folders. The percent error is 2%, because 3 is 2% of 150.

percent increase

A percentage increase tells how much a quantity went up, expressed as a percentage of the starting amount.

For example, Elena had \$50 in the bank on Monday. She had \$56 on Tuesday. The amount went up by \$6.

This was a 12% increase, because 6 is 12% of 50.

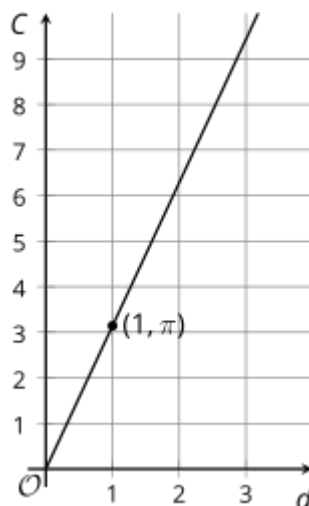


pi (π)

There is a proportional relationship between the diameter and circumference of any circle. The constant of proportionality is pi. The symbol for pi is π .

We can represent this relationship with the equation $C = \pi d$, where C represents the circumference and d represents the diameter.

Some approximations for π are $\frac{22}{7}$, 3.14, and 3.14159.



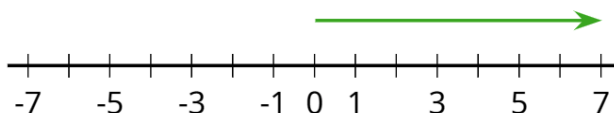
population

A population is a set of people or things that we want to study.

For example, if we want to study the heights of people on different sports teams, the population would be all the people on the teams.

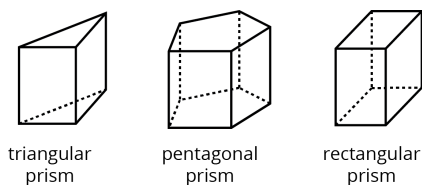
positive number

A positive number is a number that is greater than zero. On a horizontal number line, positive numbers are usually shown to the right of 0.



prism

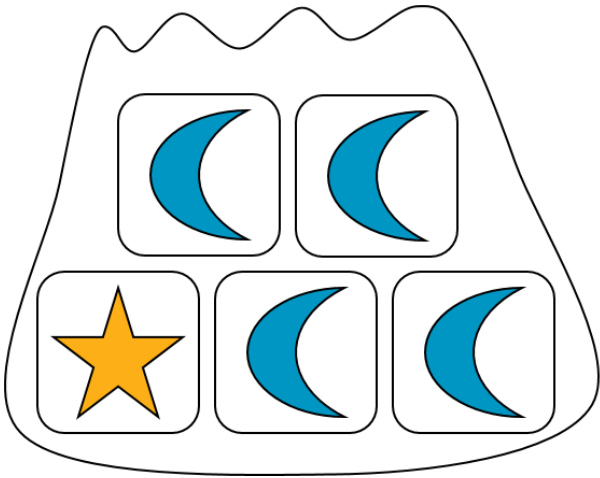
A prism is a type of polyhedron that has two bases that are identical copies of each other. The bases are connected by rectangles or parallelograms. Here are some drawings of prisms.



probability

The probability of an event is a number that tells how likely it is to happen. A probability of 1 means the event will always happen. A probability of 0 means the event will never happen.

For example, the probability of selecting a moon block at random from this bag is $\frac{4}{5}$.



proportion

A proportion of a data set is the fraction of the data in a given category.

For example, a class has 18 students. There are 2 left-handed students and 16 right-handed students in the class. The proportion of students who are left-handed is $\frac{2}{20}$, or 0.1.

proportional relationship

In a proportional relationship, the values for one quantity are each multiplied by the same number to get the values for the other quantity.

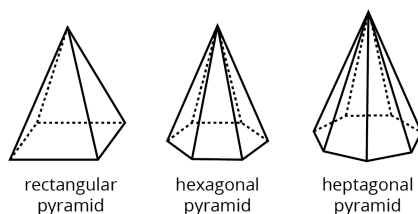
For example, in this table every value of p is equal to 4 times the value of s on the same row.

We can write this relationship as $p = 4s$. This equation shows that s is proportional to p .

s	p
2	8
3	12
5	20
10	40

pyramid

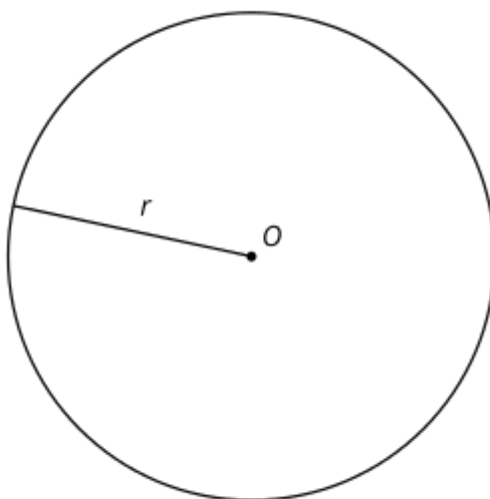
A pyramid is a type of polyhedron that has one base. All the other faces are triangles, and they all meet at a single vertex. Here are some drawings of pyramids.

rectangular
pyramidhexagonal
pyramidheptagonal
pyramid

radius

A radius is a line segment that goes from the center to the edge of a circle. A radius can go in any direction. Every radius of the circle is the same length. We also use the word *radius* to mean the length of this segment.

For example, r is the radius of this circle with center O .



random

Outcomes of a chance experiment are random if they are all equally likely to happen.

rational number

A rational number is a fraction or the opposite of a fraction. For example, 8 and -8 are rational numbers because they can be written as $\frac{8}{1}$ and $-\frac{8}{1}$. Also, 0.75 and -0.75 are rational numbers because they can be written as $\frac{75}{100}$ and $-\frac{75}{100}$.

reciprocal

Dividing 1 by a number gives the reciprocal of that number. For example, the reciprocal of 12 is $\frac{1}{12}$, and the reciprocal of $\frac{2}{5}$ is $\frac{5}{2}$.

repeating decimal

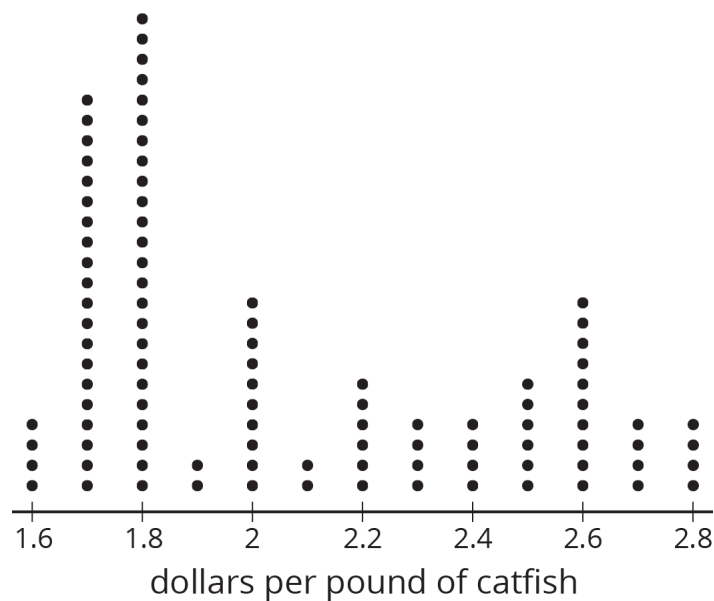
A repeating decimal has digits that keep going in the same pattern over and over. The repeating digits are marked with a line above them.

For example, the decimal representation for $\frac{1}{3}$ is $0.\overline{3}$, which means $0.3333333 \dots$. The decimal representation for $\frac{25}{22}$ is $1.1\overline{36}$ which means $1.136363636 \dots$.

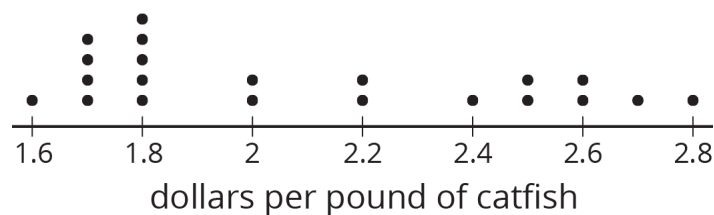
representative

A sample is representative of a population if its distribution resembles the population's distribution in center, shape, and spread.

For example, this dot plot represents a population.

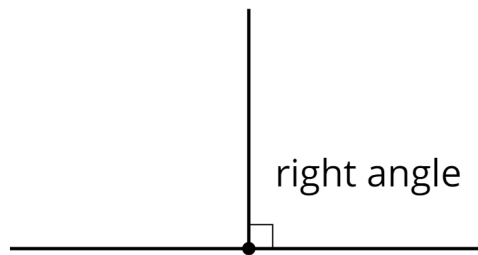


This dot plot shows a sample that is representative of the population.



right angle

A right angle is half of a straight angle. It measures 90 degrees.



sample

A sample is part of a population. For example, a population could be all the seventh grade students at one school. One sample of that population is all the seventh grade students who are in band.

sample space

The sample space is the list of every possible outcome for a chance experiment.

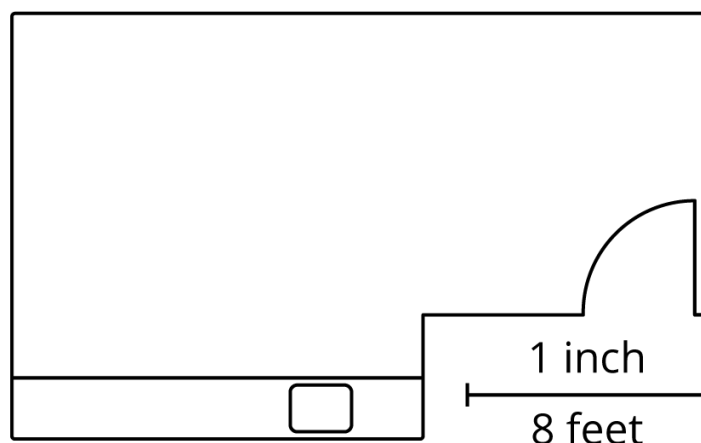
For example, the sample space for tossing two coins is:

heads-heads	tails-heads
heads-tails	tails-tails

scale

A scale tells how the measurements in a scale drawing represent the actual measurements of the object.

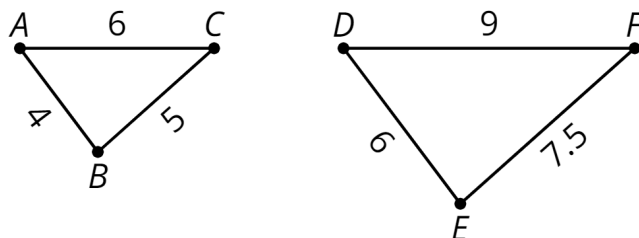
For example, the scale on this floor plan tells us that 1 inch on the drawing represents 8 feet in the actual room. This means that 2 inches would represent 16 feet, and $\frac{1}{2}$ inch would represent 4 feet.



scaled copy

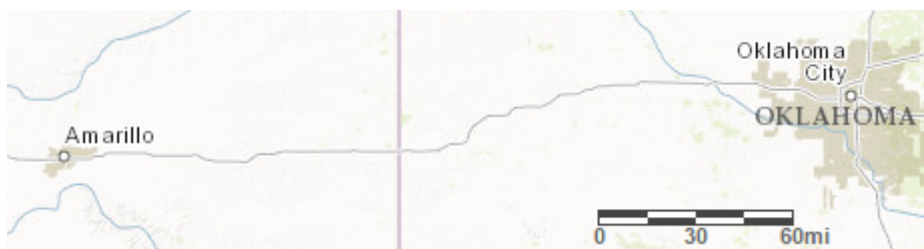
A scaled copy is a copy of a figure where every length in the original figure is multiplied by the same number.

For example, triangle DEF is a scaled copy of triangle ABC . Each side length on triangle ABC was multiplied by 1.5 to get the corresponding side length on triangle DEF .



scale drawing

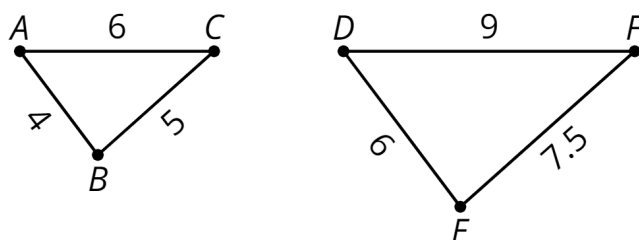
A scale drawing represents an actual place or object. All the measurements in the drawing correspond to the measurements of the actual object by the same scale.



scale factor

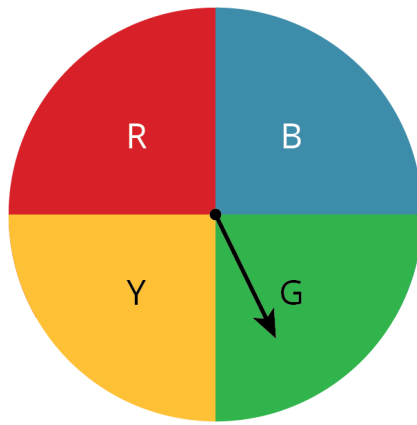
To create a scaled copy, we multiply all the lengths in the original figure by the same number. This number is called the scale factor.

In this example, the scale factor is 1.5, because $4 \cdot (1.5) = 6$, $5 \cdot (1.5) = 7.5$, and $6 \cdot (1.5) = 9$.



simulation

A simulation is an experiment that is used to estimate the probability of a real-world event. For example, suppose the weather forecast says there is a 25% chance of rain. We can simulate this situation with a spinner with four equal sections. If the spinner stops on red, it represents rain. If the spinner stops on any other color, it represents no rain.



solution to an equation

A solution to an equation is a number that can be used in place of the variable to make the equation true.

For example, 7 is the solution to the equation $m + 1 = 8$, because it is true that $7 + 1 = 8$. The solution to $m + 1 = 8$ is not 9, because $9 + 1 \neq 8$.

solution to an inequality

A solution to an inequality is a number that can be used in place of the variable to make the inequality true.

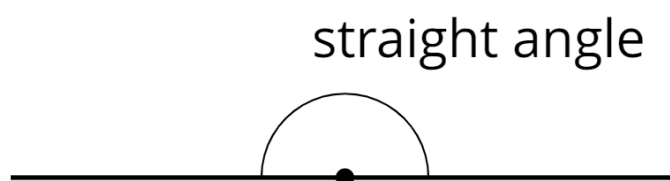
For example, 5 is a solution to the inequality $c < 10$, because it is true that $5 < 10$. Some other solutions to this inequality are 9.9, 0, and -4.

squared

We use the word *squared* to mean “to the second power.” This is because a square with side length s has an area of $s \cdot s$, or s^2 .

straight angle

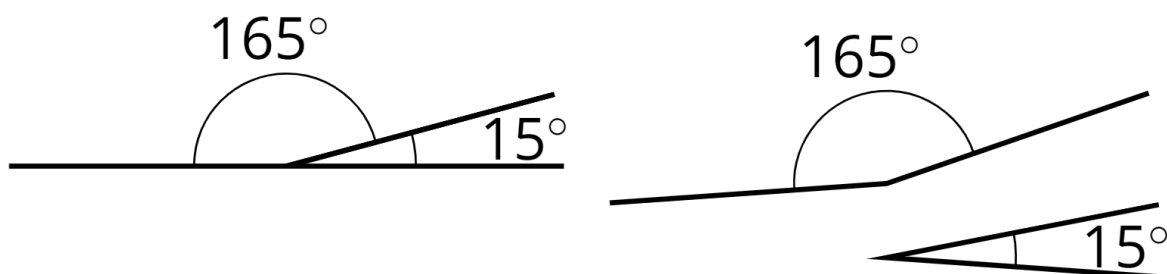
A straight angle is an angle that forms a straight line. It measures 180 degrees.



supplementary

Supplementary angles have measures that add up to 180 degrees.

For example, a 15° angle and a 165° angle are supplementary.

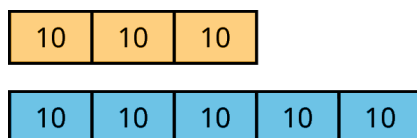


surface area

The surface area of a polyhedron is the number of square units that covers all the faces of the polyhedron, without any gaps or overlaps. For example, if the faces of a cube each have an area of 9 cm^2 , then the surface area of the cube is $6 \cdot 9$, or 54 cm^2 .

tape diagram

A tape diagram is a group of rectangles put together to represent a relationship between quantities. For example, this tape diagram shows a ratio of 30 gallons of yellow paint to 50 gallons of blue paint. If each rectangle were labeled 5, instead of 10, then the same picture could represent the equivalent ratio of 15 gallons of yellow paint to 25 gallons of blue paint.



term

A term is a part of an expression. It can be a single number, a variable, or a number and a variable that are multiplied together. For example, the expression $5x + 18$ has two terms. The first term is $5x$ and the second term is 18.

unit rate

A unit rate is a rate per 1. For example, 12 people share 2 pies equally. One unit rate is 6 people per pie, because $12 \div 2 = 6$. The other unit rate is $\frac{1}{6}$ of a pie per person, because

$$2 \div 12 = \frac{1}{6}.$$

variable

A variable is a letter that represents a number. You can choose different numbers for the value of the variable.

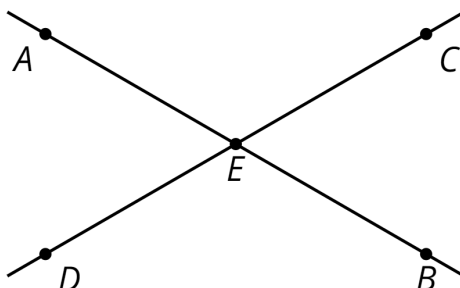
For example, in the expression $10 - x$, the variable is x . If the value of x is 3, then $10 - x = 7$, because $10 - 3 = 7$. If the value of x is 6, then $10 - x = 4$, because $10 - 6 = 4$.

vertical angles

Vertical angles are opposite angles that share the same vertex. They are formed by a pair of intersecting lines. Their angle measures are equal.

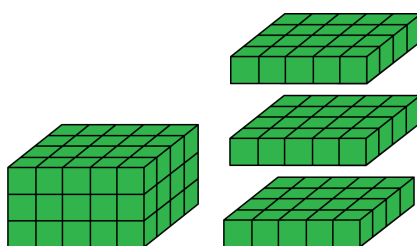
For example, angles AEC and DEB are vertical angles. If angle AEC measures 120° , then angle DEB must also measure 120° .

Angles AED and BEC are another pair of vertical angles.



volume

Volume is the number of cubic units that fill a three-dimensional region, without any gaps or overlaps. For example, the volume of this rectangular prism is 60 units^3 , because it is composed of 3 layers that are each 20 units^3 .



withdrawal

When you take money out of an account, it is called a withdrawal.

For example, a person removed \$25 from their bank account. Before the withdrawal, they had \$350. After the withdrawal, they had \$325, because $350 - 25 = 325$.

Spanish Glossary



Grade 7 Spanish Language Glossary (PDF) Subscription required

From  Illustrative Mathematics

The printable version of Grade 7 Glossary translated into Spanish.

Type PDF

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