The associative property is __________.

- A. the property which states that the product of any number and 0 is 0; 4 x 0 = 0
- B. the property which states that the way in which addends are grouped does not change the sum; (6 + 5) + 8 = 6 + (5 + 8)
- C. the property which states that if one factor is a sum, multiplying each addend before adding does not change the product; 5 x (2 + 4) = (5 x 2) + (5 x 6)
- D. the property which states that the product of any number and 1 is that number; 7 x 1 = 7

This is a very good example of the Associative Property. I am glad Lisa shared it and did not keep it private property.

(2+3)+4=2+(3+4)

Rica has 27 glow-in-the-dark bracelets. He wants to share them fairly with 9 of his friends at the tennis club. He needs to find the quotient of 27 and 9 to find out how many bracelets to give each friend. Can you help Rica find the quotient?

- A. 27 bracelets
- B. 18 bracelets
- C. 3 bracelets
- D. 9 bracelets

A polygon is ____________.

- A. a quadrilateral with opposite sides that are parallel and congruent
- B. a triangle that has two equal sides and two equal angles
- C. a closed figure made up of three or more line segments, such as a triangle or pentagon
- D. a triangle that has a right angle

Once you close the figure you have made a shape called a polygon.

It's not gone... I can still see it.
Lisa loves sunny days. She has 3 pairs of yellow shades, 4 pairs of blue shades, and 1 pair of orange shades. She wrote this number sentence to show how many pairs of sunglasses she has altogether.

\[(3 + 4) + 1\]

Which of the following uses the **associative property** to show another way to find how many pairs of shades Lisa has altogether?

- A. 3 + (4 + 1)
- B. 7 + 1
- C. 8
- D. \((3 \times 4) + (3 \times 1)\)

A **remainder** is ________________.

- A. the number by which another number is divided
- B. the answer when you add numbers
- C. the answer when you multiply numbers
- D. the number left over when a number cannot be divided evenly

At recess, Devi, Chloe, and Lexi were playing a game called “Guess My Picture.” Devi drew a heart, Chloe drew the letter “W,” and Lexi drew a stop sign. Which of the girls drew a **polygon**?

- A. Devi
- B. Chloe
- C. Lexi
- D. All of the girls drew a polygon
A decimal is _____________.

☐ A. a fraction in which the numerator is greater than or equal to its denominator, such as \( \frac{3}{4} \) and \( \frac{3}{5} \)

☐ B. a number that is less than zero

☐ C. a pair of numbers used to locate a point on a grid

☐ D. a number that uses a decimal point to show values less than one, such as tenths and hundredths

The Snowy family runs a sled-ride business. It takes 4 reindeer to pull each sled and they have 17 reindeer. Once they’ve harnessed reindeer to all of the sleds, what is the remainder of reindeer that are not pulling sleds?

☐ A. 4

☐ B. 3

☐ C. 2

☐ D. 1

If you are asked to find the radius of a circle, you need to find _____________.

☐ A. a line segment that connects two points on the circle and passes through the center

☐ B. the distance around the circle

☐ C. the number of square units that cover the circle

☐ D. a line segment that connects the center of the circle to any point on the circle
Lace Value is a star softball player. Her batting average this season is four hundred nine thousandths. What is Lace Value’s batting average in **decimal** form?

- A. 409,000
- B. 0.490
- C. 0.0409
- D. 0.409

**What is an acute angle?**

- A. an angle measuring more than 90 degrees and less than 180 degrees
- B. an angle measuring exactly 90 degrees
- C. an angle measuring more than 0 degrees and less than 90 degrees
- D. the meeting point for two rays of an angle or the corner point where faces of a solid meet

**Boo!** Some kids were telling scary stories around the campfire. Two kids were sitting directly across from each other, 14 feet apart. What is the **radius** of the campfire circle?

- A. 7 feet
- B. 14 feet
- C. 28 feet
- D. 21 feet
A denominator is ________________.

A. a number that is less than zero
B. the number above the bar in a fraction, telling how many parts of a whole are included
C. the number below the fraction bar that tells the number of parts a whole is divided into
D. a number that contains a whole number and a fraction, such as 5 1/2

What a catch! Barney and Trent are each reeling in a big fish. Whose fishing pole forms an acute angle with the fishing line?

A. Barney’s
B. Trent’s
C. Both Barney’s and Trent’s
D. Neither Barney’s nor Trent’s

A rectangular prism is a

A. a solid figure with a round top and bottom of the same size; a figure shaped like a can
B. a solid figure with six faces that are rectangles
C. a solid figure with a point at one end and a flat, round base at the other end
D. a solid round figure shaped like a ball
Mr. D. Nominator is holding a raffle for students who turned in all their homework this week. He told them that they have a $\frac{4}{15}$ chance of winning a prize. What’s the denominator of $\frac{4}{15}$?

- A. 3
- B. 13
- C. $3\frac{1}{12}$
- D. 4.3

If you are asked to find the area of something, you need to find

- A. the number of square units that cover a flat surface
- B. the measurement of the amount of space a solid figure occupies
- C. the distance around the outside of a figure
- D. the distance around a circle

The Solid family just got back from the grocery store and noticed that their groceries are three-dimensional figures. Which one is a rectangular prism?

- A. cereal
- B. soup
- C. watermelon
- D. cheese
A dividend is ________________.

- A. the number being divided in a division problem
- B. the number by which another number is divided
- C. a number that is less than zero
- D. the amount out of 100

Chang, can you please tell me a dividend that can be divided evenly by 5?

Ummm...umm... I can't decide. I am just so divided between 15 and 20.

Pirate Length and Pirate Width are going to search the whole area of their map for the buried treasure. What is the total area that the pirates need to search?

- A. 6 square miles
- B. 8 square miles
- C. 8 miles
- D. 2 miles

A right triangle is ________________.

- A. a triangle in which all three sides are the same length and all three angles are equal
- B. a triangle that has a right angle
- C. a triangle that has two equal sides and two equal angles
- D. a triangle that has an angle measuring more than 90 degrees and less than 180 degrees

Are you sure this is the way to go? Of course I'm sure. I'm always right. Can't you see my 90° angle?
Ms. Dowd is playing "Mystery Number" with her students. The mystery number is the **dividend** that can be divided by three to equal twelve. Do you know what the mystery number is?

A. 4  
B. 12  
C. 36  
D. 3  

If you are asked to find the **circumference** of something, you need to find ________.

A. the number of square units that cover a flat surface  
B. the length of a line segment that connects the center of a circle to any point on the circle  
C. the length of a line segment that connects two points on a circle and passes through the center  
D. the distance around a circle  

Daniella, Antonio, and Francesca love triangles. They see them everywhere! One day, Francesca said, "One of us has a roof that forms a **right triangle**." Whose house is it?

A. Daniella's  
B. Antonio's  
C. Francesca's
A divisor is _____________.

- A. a number that is added to another number
- B. a number that is multiplied by another number
- C. the number being divided in a division problem
- D. the number by which another number is divided

Oh, I thought ‘da visor’ was to divide the sun from my eyes.

15 ÷ 5 = 3

Pep! It's time for Karla and Paul to throw their gum away in the circular trash can. To determine the circumference of the trash can, do they need to know how much space is inside the can, how much the can weighs, or the distance around the rim of the can?

- A. how much space is inside the trash can
- B. how much the trash can weighs
- C. the distance around the rim of the trash can

A vertex is _____________.

- A. a flat shape with three sides
- B. the meeting point for two rays of an angle or the corner point where faces of a solid meet
- C. a line segment that connects the center of a circle to any point on the circle
- D. the distance around a circle

Square, I have tried and tried to get these rays to open to 90 degrees. They just won't cooperate!

Vertex, maybe you need to try a new angle with them.
Brenna bought 28 lollipops from Lucky Licks to share with her four best friends. She wants to be fair though, so she wrote a division problem to help her: $28 \div 4 = 7$. What is the divisor in Brenna’s problem?

- A. 28
- B. 4
- C. 7
- D. none of the above

If you are asked to find the diameter of a circle, you need to find

- A. a line segment that connects two points on the circle and passes through the center
- B. the distance around the circle
- C. the number of square units that cover the circle
- D. a line segment that connects the center of a circle to any point on the circle

Ray loves to ride his bike on the neighborhood bike paths. Which two bike paths in Ray’s neighborhood form a vertex?

- A. Nature Path and Library Path
- B. Library Path and School Path
- C. Nature Path and School Path
What are factors?

A. numbers that are fractions
B. numbers that are added together
C. numbers that are multiplied together
D. a pair of numbers used to locate a point on a grid

Notice how we use factors to make a factor tree. It looks like we are branching out in multiplication.

Dina helps her friends find peaceful solutions to arguments. She gives them stickers with peace signs to remind them to be peaceful. One of Dino’s stickers is shown here. Which line segment is a diameter of the peace sign?

A. line segment AB
B. line segment ABC
C. line segment AD
D. line segment BD

Volume is a measure of the

A. number of square units that cover a flat surface
B. distance around the outside of a figure
C. distance from the center of a circle to any point on the circle
D. amount of space a solid figure occupies

Yell and raise your volume all you want, but there still won’t be enough volume in that suitcase for all your clothes.

Just close already!
Mr. Maple asked his students to make a factor tree for the number 100. Cherry and Willow each made a different factor tree, and Mr. Maple said that both trees were correct. They noticed that the prime numbers at the bottom of the branches were the same on both trees. What are those prime factors?

- A. 2, 2, 5, 5
- B. 10, 10
- C. 25, 50
- D. 50, 100

An edge is

- A. the meeting point for two rays of an angle or the corner point where faces of a solid meet
- B. a line that is in the same plane as another line but never crosses that line
- C. a flat surface of a solid figure
- D. the place where two faces of a solid figure meet

Happy Birthday! Uncle Bob has a box for Carly’s gift. He takes three measurements and finds that he has 36 in³ inside the box to fill with gifts, he needs 52 in² of wrapping paper to cover the box, and he cuts 14 in of ribbon to go around the box. Which of Uncle Bob’s measurements represents volume?

- A. 36 in³
- B. 52 in²
- C. 14 in
What is an improper fraction?

- A. a fraction in which the numerator is greater than or equal to its denominator, such as $\frac{2}{3}$ and $\frac{4}{3}$
- B. a number that contains a whole number and a fraction, such as $3\frac{1}{2}$
- C. a fraction with 100 as the denominator
- D. an impossible fraction

So what if you’re improper? You are still worth as much as that mixed number over there.

The Board family plays games together every Friday night and most of the games use a die (number cube). How many edges does a die have?

- A. 6 edges
- B. 8 edges
- C. 10 edges
- D. 12 edges

What is a line graph?

- A. a chart that uses tally marks to record data
- B. an easy-to-read arrangement of data, usually in rows and columns
- C. a graph that uses bars to show data
- D. a graph that uses a line to show how data changes over time

This line graph shows our cookie sales data from the past five years. We’ve got enough pins and badges to last a lifetime. This year we’ve got to sell at least 100 boxes so I can win that bike!
Mr. and Mrs. Equal are sitting on a bench in the park. The bench is $4\frac{5}{7}$ feet long. As an **improper fraction**, how long is the bench?

- A. $\frac{17}{5}$ feet
- B. $\frac{41}{7}$ feet
- C. $\frac{23}{3}$ feet
- D. $\frac{31}{2}$ feet

---

What is an **equilateral triangle**?

- A. a triangle in which all three sides are the same length and all three angles are equal
- B. a triangle that has two equal sides and two equal angles
- C. a triangle that has a right angle
- D. a closed figure made up of three or more line segments, such as a triangle or pentagon

---

Rozelia has a collection of cool prizes that she’s won for selling cookies. She won her first pin when she sold 50 boxes of cookies. Check out the data in her **line graph**. In what year did Rozelia sell enough cookies to win her first pin?

- A. 2009
- B. 2010
- C. 2011
- D. 2012
What is a **mixed number**?

- A. a fraction in which the numerator is greater than or equal to its denominator, such as $\frac{3}{2}$ and $\frac{5}{4}$
- B. a number that contains a whole number and a fraction, such as $3\frac{1}{2}$
- C. a fraction with 100 as the denominator
- D. a number that uses a decimal point to show values less than one, such as tenths and hundredths

Ahoy! A boat sailed by the kids and they noticed that it had a sail that formed an **equilateral triangle**. The base of the sail measured 6 feet. How long were the other two sides of the sail?

- A. Each of the sides was 12 feet long
- B. Each of the sides was 6 feet long
- C. One side was 6 feet and the other was 12 feet long
- D. Each of the sides was 3 feet long

If you are asked to find the **mean** of a set of numbers, you need to find

- A. the middle number when the set of numbers is arranged in order from least to greatest
- B. an average found by adding the numbers in the set and dividing the sum by the number of addends
- C. the number that appears most often in the set
- D. the difference between the greatest and the least numbers in the set
The Almond family is nutty for nuts. Last week, they ate three full jars of nuts and finished one fourth of another jar. As a mixed number, how many jars of nuts did the Almond family eat?

- A. 3 1/4 jars
- B. 3 1/2 jars
- C. 1 1/4 jars
- D. 3 1/4 jars

The face on a solid figure is a(n)

- A. edge
- B. flat surface
- C. square
- D. corner point

I like the cube head. Now we just need to put a face on one face.

Celly tried sending fewer messages. The table shows how many text messages Celly sent on each of 3 days the next week. What is the mean number of messages Celly sent over the 3 days?

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of Text Messages Sent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tues</td>
<td>320</td>
</tr>
<tr>
<td>Wed</td>
<td>270</td>
</tr>
<tr>
<td>Thurs</td>
<td>310</td>
</tr>
</tbody>
</table>

- A. 320
- B. 270
- C. 310
- D. 300
A negative number is

- A. the answer in a division problem
- B. a number that uses a decimal point to show values less than one, such as tenths and hundredths
- C. a number that is greater than one
- D. a number that is less than zero

When the thermometer reads 3 degrees below zero, that is a negative for both the temperature and recess.

Ronnie Robot gives students hints on their math homework.

“How many faces does a triangular prism have?” asked Keyon.

Ronnie Robot whispered, “Look at the flat surfaces on my arm.”

What is the answer to Keyon’s question?

- A. 3 faces
- B. 4 faces
- C. 5 faces
- D. 6 faces

If you are asked to find the median of a set of numbers, you need to find

- A. the middle number when the set of numbers is arranged in order from least to greatest
- B. an average found by adding the numbers in the set and dividing the sum by the number of addends
- C. the number that appears most often in the set
- D. the difference between the greatest and the least numbers in the set
Ms. Lesser noticed it was negative 1°F at 10am. By afternoon recess time at 2pm, the temperature had fallen by 6°. What was the temperature during afternoon recess?

- A. -5°F
- B. -7°F
- C. 5°F
- D. 7°F

What is an isosceles triangle?

- A. a triangle that has a right angle
- B. a flat shape that has six sides
- C. a triangle in which all three sides are the same length and all three angles are equal
- D. a triangle that has two equal sides and two equal angles

The Tigers had a great football season! Check out their scores. What’s the median number of points the Tigers scored this season?

- A. 24
- B. 37
- C. 13
- D. 26
A numerator is _____________.

- A. the number above the bar in a fraction, telling how many parts of a whole are included
- B. the number below the fraction bar that tells the number of parts a whole is divided into
- C. a number that is less than zero
- D. a whole number greater than one that has only two factors: one and itself

Geo was surprised to learn that Mrs. Lee’s corn tortilla chips formed **isosceles triangles**. Before she dipped her chip into salsa, she decided to measure it with her ruler to prove that Mrs. Lee was correct. How many sides of the triangular chip were the same length?

- A. 1 side
- B. 2 sides
- C. 3 sides
- D. All of the sides were the same length.

If you are asked to find the **mode** of a set of numbers, you need to find ___________.

- A. the middle number when the set of numbers is arranged in order from least to greatest
- B. an average found by adding the numbers in the set and dividing the sum by the number of addends
- C. the number that appears most often in the set
- D. the difference between the greatest and the least numbers in the set

The number that appears most is the mode.

**Ms. Rosales, I think we would understand it better if we could have an ice cream snack as we learn...you know...math a la MODE.**
Pete and his brother Brad share a bunk bed. Pete gets the top bunk bed \( \frac{3}{7} \) of the time. What is the **numerator** in the fraction \( \frac{3}{7} \)?

- A. 5
- B. 7
- C. \( \frac{3}{7} \)
- D. there is no numerator

What is an **obtuse angle**?

- A. an angle measuring more than 90 degrees and less than 180 degrees
- B. an angle measuring exactly 90 degrees
- C. an angle measuring more than 0 degrees and less than 90 degrees
- D. the meeting point for two rays of an angle or the corner point where faces of a solid meet

Ms. Rosales' class had an ice cream sundae party to celebrate good grades in math class. What is the **mode** of the scoops students had in their ice cream sundaes?

- A. 1
- B. 2
- C. 3

### HOT DOTS®

<table>
<thead>
<tr>
<th>Student</th>
<th>Number of Ice Cream Scoops in Sundae</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kelsey</td>
<td>🍦🍦</td>
</tr>
<tr>
<td>Lauren</td>
<td>🍦</td>
</tr>
<tr>
<td>Colin</td>
<td>🍦🍦</td>
</tr>
<tr>
<td>Sloane</td>
<td>🍦🍦</td>
</tr>
<tr>
<td>Becca</td>
<td>🍦🍦</td>
</tr>
<tr>
<td>Dave</td>
<td>🍦🍦🍦</td>
</tr>
</tbody>
</table>

by Educational Insights
What does percent mean?

- A. the answer in a division problem
- B. the amount subtracted from zero
- C. the amount out of 100
- D. a measure of the chance that a particular outcome will occur

Wow...that means 95 out of 100 people like the smell of freshly baked bread. That is a high per-SCENT-age, Eric.

Last night on the news I heard that 95 percent of people like the smell of freshly baked bread.

Pigeons can fly as fast as 100 miles per hour! There are three different fast-flying pigeon fan clubs in town. Each club has its own banner. Which club has a banner with an obtuse angle?

- A. Eagles
- B. Hawks
- C. Cardinals
- D. None of the banners have an obtuse angle

What is an ordered pair?

- A. a measure of the chance that a particular outcome will occur
- B. lines that are in the same plane but never cross
- C. the place where two faces of a solid figure meet
- D. a pair of numbers used to locate a point on a grid

Excuse me, but I ordered pears to eat, not ordered pairs to find a location.
Yum! At Sweet Scents Bakery, fresh cookies are served all day. The bakery sold 50 cookies on Tuesday afternoon and 31 of them were chocolate chip. What percent of cookies sold on Tuesday afternoon were chocolate chip?

- A. 31%
- B. 62%
- C. 50%
- D. 81%

Parallel lines are ________________.

- A. the meeting point for two rays of an angle
- B. imaginary lines that divide figures into two equal or matching parts
- C. lines that are in the same plane but never cross
- D. the place where two faces of a solid figure meet

Here’s a map of Mr. Coordinate’s favorite places. What ordered pair describes the location of his favorite restaurant?

- A. (4, 6)
- B. (6, 4)
- C. (3, -3)
- D. (2, 2)
What is a prime number?

A. the answer when you multiply numbers
B. a whole number greater than one that has only two factors: one and itself
C. the answer in a division problem
D. the number left over when a number cannot be divided evenly

The beauty of a prime number is in the factors, Mrs. Smith! They only have two—themselves and one! Plus, 3s are easy to paint.

Assignment: Paint a beautiful picture

Crash! Corey dropped his colored pencils on the floor in the middle of Mr. Line’s math lesson. Before he could pick them up, Ella exclaimed, “Wait! Two of the colored pencils are parallel, just like Mr. Line’s suspenders.” Which two colored pencils did Ella notice?

A. yellow and green
B. blue and green
C. red and yellow
D. red and orange

Probability is a measure of the

A. chance that a particular outcome will occur
B. difference between the greatest and the least numbers in a set of data
C. distance from the center of a circle to any point on the circle
D. distance around the outside of a circle

I think she wants us to have homework... Just look at the probability of getting it.
LaToya is playing her favorite game, bingo. So far she has covered all but 2, 4, 7, 13, 24, 35, and 50. She noticed that three of those numbers are prime. Which uncovered numbers on LaToya’s bingo card are prime?

- A. 4, 24, 35, and 50
- B. 7 and 13
- C. 2, 7, and 13
- D. only 7

A parallelogram is _____________.

- A. a quadrilateral with opposite sides that are parallel and congruent
- B. a triangle that has two equal sides and two equal angles
- C. a closed figure made up of three or more line segments, such as a triangle or pentagon
- D. a triangle that has a right angle

Ms. Likely used another spinner to decide how much homework she will assign her students tonight. Ms. Likely spins the spinner. What is the probability of the students receiving 1 hour or less of homework?

- A. 2
- B. 0
- C. \( \frac{2}{3} \)
- D. \( \frac{1}{3} \)
**MATH VOCABULARY**

**Grades 4-6**

**At HOME**

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**A product** is ________________.

- A. the number being divided in a division problem
- B. the number left over when a number cannot be divided evenly
- C. the answer in a division problem
- D. the answer when you multiply numbers

---

Did you know that 660 million pieces of mail are delivered each day in the United States? Clara wrote a letter about what she is learning in school to her pen pal, Jake. She decorated the envelope with the quadrilaterals shown here. Which of Clara’s quadrilaterals are **parallelograms**?

- A. A, D, E
- B. A, D, E, F
- C. B, C
- D. B, C, F

---

If you are asked to find the **range** of a group of numbers, you need to find ________________.

- A. the middle number when the set of numbers is arranged in order from least to greatest
- B. an average found by adding the numbers in the set and dividing the sum by the number of addends
- C. the number that appears most often in the set
- D. the difference between the greatest and the least numbers in the set

---

Wow, Sally you are the only one who found the range! I think we should call you the Lone Ranger.
Mr. and Mrs. Factor are planting a garden. Mr. Factor prepares the ground for 4 rows of flowers. Mrs. Factor plants 9 flowers in each row. The Factors want to know how many flowers they have planted in total. What is the product of the number of rows and the number of flowers in each row?

- A. 36 flowers
- B. 27 flowers
- C. 5 flowers
- D. 13 flowers

When you measure the perimeter of something, you are measuring

- A. the amount of space a solid figure occupies
- B. the number of square units that cover a flat surface
- C. the distance around the outside of a figure
- D. the distance from the center of a circle to any point on the circle

Four friends had a bubble gum blowing contest to see who could blow a bubble that would last the longest before popping. Emma’s bubble lasted 8 seconds, Josie’s bubble burst after 5 seconds, Kenny’s went flat after 14 seconds, and Jamie’s collapsed after 11 seconds. What is the range of times that the bubbles lasted?

- A. 5 seconds
- B. 9 seconds
- C. 12 seconds
- D. 14 seconds
A quotient is __________.
A. the answer when you multiply numbers
B. the answer in a division problem
C. the number left over when a number cannot be divided evenly
D. the number by which another number is divided

As you can see, some of you agree that the quotient is 3 and some of you disagree. So I guess we're a little divided!

Phoebe wanted to plant a row of flowers around her yard. Her yard is 20 feet long and 50 feet wide. What is the perimeter of her yard?

A. 70 feet
B. 140 feet
C. 100 feet
D. 1,000 square feet