Term	Definition	
<b>absolute</b> <b>deviation</b> (from the mean)	Absolute deviation is the distance between a value and the mean of a data set. If a class's mean number of pets is 1. 7, then the absolute deviation of a student who has 1 pet is $0.7$ .	
absolute value	The absolute value of a number is its distance from 0 on the number line. The absolute value of -3 is 3 because -3 is 3 units away from 0. This is written as $ -3  = 3$ .  4  = 4 and $ -4  = 4$ . They are both 4 units away from 0.	
area	Area measures the space inside a two-dimensional figure. It is expressed in square units. The area of the left shape is 6 square units. The area of the right shape is 22 square units.	
at the same rate	<ul> <li>At the same rate means that something continues in the same way.</li> <li>Example: <ul> <li>If Michael walks 3 meters in 2 seconds, how many seconds will it take him to walk 30 meters at the same rate?</li> </ul> </li> <li>Here, at the same rate means Michael will not slow down or speed up. He will continue walking 3 meters every 2 seconds.</li> </ul>	
base (of a parallelogram or triangle)	The base of a parallelogram or triangle is one side. We can choose any side to be the base. The base can also refer to the length of this side. The height of a shape is perpendicular to the base.	

Term	Definition	
base (of a pyramid or prism)	<ul> <li>The base of a pyramid or prism is the face that gives the solid its name.</li> <li>A prism has two identical bases that are parallel.</li> <li>A pyramid has one base.</li> </ul>	
box plot	A box plot is one way to visualize numerical data. The data is divided into four sections using five numbers: the minimum, Q1, Q2 (or the median), Q3, and the maximum. The box is drawn between Q1 and Q3, and the line inside the box represents the median.	
categorical data	Categorical data has values that are words instead of numbers. What kind of pet do you have? is a question that asks for categorical data.	
coefficient	A coefficient is a number multiplied by a variable, usually without a symbol in between the number and the variable. In the expression $5x + 8$ , the coefficient of x is 5. <b>Expression</b> 5x + 8 <b>Coefficient</b>	
common denominator	Two fractions have a common denominator when the denominator (the bottom number in each fraction) is the same. For example, $\frac{3}{4}$ and $\frac{5}{4}$ have a common denominator because they each split the whole into fourths. $\frac{1}{2}$ and $\frac{1}{4}$ do not have a common denominator, but you can write $\frac{1}{2}$ as $\frac{2}{4}$ to create a common denominator.	

Term	Definition	
common factor	A common factor of two numbers is a number that is a factor of both numbers.	Factors of 8 1, 2, 4,8
	For example, 2 is a factor of 8 and also of 12, so 2 is a common factor of 8 and 12.	<b>Factors</b> 12 1, 2, 3, 4, 6, 12
common multiple	A common multiple of two numbers is a number that is a multiple of both numbers.	<b>Multiples of</b> 2 2, 4, 6, 8, 10, 12,
	For example, 12 is a multiple of 2 and also of 3, so 12 is a common multiple of 2 and 3.	<b>Multiples of</b> 3 3, 6, 9, 12, 15, 18,
coordinate plane	The coordinate plane consists of two axes, one vertical and one horizontal, that intersect at 0. Locations are described by coordinate pairs such as $(1, -2)$ , where 1 is the location on the horizontal number line and $-2$ is the location on the vertical number line.	-5 0 5 (1, -2) -5 -5
dependent variable	The dependent variable is the variable in a relationship that is the effect or result.	
	For example, if we are exploring the distance a boat can travel in different amounts of time, the dependent variable is the distance traveled, <i>d</i> .	
	The dependent variable is typically on the vertical axis of a graph and the right-hand column of a table.	

Term	Definition
dot plot	A dot plot is one way to visualize data. Each data point is shown as a dot above its value, stacking on top of other dots with the same value. For example, this dot plot shows that 3 students guessed that there were 18 jelly beans in a jar.
double number line diagram	A double number line diagram is a pair of parallel number lines showing equivalent ratios. The tick marks are labeled so that the marks that line up vertically are equivalent ratios. This double number line diagram shows a ratio of 3 ounces of red tint : 5 gallons of white paint.
edge	Each straight side of a polygon is called an edge. This parallelogram has four edges.
equivalent expressions	Equivalent expressions are different ways of describing the same quantity. x + x + x is equivalent to $3x$ because they both describe three copies of an unknown number, $x$ .

Term	Definition	
equivalent ratio	Two ratios are equivalent if you can multiply each of the values in the first ratio by the same number to get the values in the second ratio. 3: 2 is equivalent to 6: 4 because $3 \cdot 2 = 6$ and $2 \cdot 2 = 4$ . One lemonade uses 3 cups of water and 2 lemons. Another uses 6 cups of water and 4 lemons. The second recipe will make twice as much lemonade but both recipes will taste the same.	
exponent	Exponents describe repeated multiplication. For example, $2^4 = 2 \cdot 2 \cdot 2 \cdot 2 = 16$ . $2^4$ is called "2 to the power of 4" or "2 to the fourth." In $2^4$ , 2 is called the base and 4 is called the exponent.	2 <sup>4</sup>
face	Each flat side of a polyhedron is called a face. A cube has six faces and they are all squares.	
greatest common factor (GCF)	The greatest common factor (GCF) is the largest factor of two numbers. The common factors of 8 and 12 are 1, 2, and 4 The greatest common factor is 4.	number that is a common

Term	Definition	
height	The height of a parallelogram is the perpendicular distance between a base and its opposite side. The height of a triangle is the perpendicular distance between a base and its opposite vertex. Sometimes, the height falls outside the shape. Here, the height is shown by a dotted line.	Base Base Base
histogram	A histogram is one way to visualize numerical data. The data in a histogram is grouped into bins each shown by a rectangle. The height of each rectangle shows how many values are in that bin. For example, this histogram shows that there are 8 values between 0 and 10.	
independent variable	The independent variable is the variable in a relationship that is the cause. For example, if we are exploring the distance a boat can travel in different amounts of time, the independent variable is the amount of time, <i>t</i> . The independent variable is typically on the horizontal axis of a graph and the left-hand column of a table.	

Term	Definition
interquartile range (IQR)	Interquartile range (or IQR) is a measure of spread. It is the distance from Q1 to Q3 and the width of the box in a box plot. For example, the IQR of this data set is $32 - 8 = 24$ .
least common multiple (LCM)	The least common multiple (LCM) is the smallest number that is a common multiple of two numbers. The common multiples of 2 and 3 are 6, 12, 18, The least common multiple is 6.
mean	The mean or average is a measure of center. The mean is the number of items in each group if the items are distributed equally or the balance point of a dot plot. To calculate the mean, you can add up all the data values, and divide by the number of data points. In this situation, the mean is 3 tickets.
mean absolute deviation (MAD)	The mean absolute deviation (or MAD) is one way to measure how spread out a data set is. It is the average of all of the absolute deviations of the points in a data set. To calculate the MAD, determine the distance between each data point and the mean, then calculate the mean of those distances. In this example, the MAD is 2. 4 because 3 + 2 + 1 + 1 + 5 = 12 and $12 \div 5 = 2.4$ .

Term	Definition	
measure of center	A measure of center is a single number that summarizes all of its values. It is usually a typical value for a data set. Mean and median are measures of center.	0 0 0 14 16 18 20 22 Median: 19 Median: 19
measure of spread	A measure of spread tells us how bunched up or spread out the values in a data set are. Range, interquartile range, and mean absolute deviation are measures of spread. For example, the dot plot on the top has a larger spread than the dot plot on the bottom.	
median	Median is a measure of center. It is the middle value of a data set when the values are in numerical order. If there are two values in the middle of the data set, then the median is the mean of those two values.	0 0 ● ● 0 0 14 16 18 20 22 Median: 19
negative number	A negative number is a number that is <b>less</b> than 0. On a horizontal number line, negative numbers are to the left of 0.	<b>← + + + ← ○ + + + +</b> -20 -15 -10 -5 0 5 10 15 20
net	A net is a two-dimensional figure that can be folded to make a polyhedron. Here is a net for a rectangular prism.	

Term	Definition	
numerical data	Numerical data has values that are numbers and can be measured. <i>How many pets do you have</i> ? is a question that asks for numerical data.	
opposite	Two numbers are opposites if they are the same distance from 0 and on different sides of the number line. For example, 4 is the opposite of – 4, and – 4 is the opposite of 4.	
parallelogram	A parallelogram is a quadrilateral that has two pairs of parallel sides. The opposite sides of a parallelogram are the same length.	
per	The word <i>per</i> means "for each." For example, if the price is \$5 per ticket, that means that each ticket costs \$5. Buying 4 tickets would cost $5 \cdot 4 = 20$ .	
percent	Percent means for every 100. It is represented by the percent symbol: %. We use percents to represent ratios and fractions. 25% means 25: 100. 25% of something means $\frac{25}{100}$ or $\frac{1}{4}$ of it. Example: • There are 800 students in a school. If 20% of them are on a field trip, then that is 160 students because 20 are on the trip for every 100 students total.	
percentage	<ul> <li>Percentage is part of every 100. It is similar to percent.</li> <li>Examples: <ul> <li>Only a small percentage of students went on the trip.</li> <li>If a goalie saves 96 out of 100 shots, his percentage of saves is 96%.</li> </ul> </li> </ul>	

Term	Definition	
polygon	A polygon is a closed two-dimensional shape with straight sides that do not cross each other.	Examples of Polygons
polyhedron	A polyhedron is a closed three-dimensional shape with flat sides. When we have more than one polyhedron, we call them polyhedra. Here are some drawings of polyhedra.	
positive number	A positive number is a number that is <b>greater</b> than 0. On a horizontal number line, positive numbers are to the right of 0.	+ + + + O + + + + + + + + + + + + + + +
prism	A prism is a solid that has two bases that are identical copies. The bases are connected by rectangles or parallelograms.	Triangular Prism Hexagonal Prism
product	A product describes two or more quantities that are being multiplied together. For example, the area of this rectangle is the product of 3 and $2x + 5$ or $3(2x + 5)$ .	$3 \boxed{\begin{array}{c c} 2x & 5 \\ 3 \hline \\ \end{array}}$ Area as a Product 3(2x + 5)
pyramid	A pyramid is a solid in which the base is a polygon. All of the other faces are triangles that meet at a single vertex.	Rectangular Pyramid Pyramid

Term	Definition	
quadrilateral	A quadrilateral is a type of polygon that has fou Parallelograms and rectangles are examples of	r sides. quadrilaterals.
quartile	Quartiles divide a data set into four sections. Quartile 1 is the median of the lower half of the data. Q2 is also the median. Q3 is the median of the upper half of the data. Q4 is also the maximum.	Min. Q1Q2 Q3 Max.
quotient	A quotient is the result of dividing two numbers In the equation $12 \div 3 = 4, 4$ is the quotient.	
range	<ul> <li>Range is a measure of spread.</li> <li>It is the difference between the maximum and minimum values in a data set.</li> <li>For example, the range of this data set is 6 jelly beans because 22 - 16 = 6.</li> </ul>	16 18 20 22 Number of Jelly Beans
ratio	<ul> <li>A ratio <i>a</i>: <i>b</i> is a relationship between two quantities. For every <i>a</i> of the first, there are <i>b</i> of the second.</li> <li>If the ratio of apples to oranges in a fruit bowl is 2: 3, then for every 2 apples, there are 3 oranges.</li> <li>There are several ways to describe ratios.</li> <li>For every 3 squares, there are 2 circles.</li> <li>The ratio of squares to circles is 3 to 2.</li> <li>The ratio of squares to circles is 3: 2.</li> </ul>	

Term	Definition	
	The sign of a number (other than $0$ ) is either positive or negative.	
sign	For example, the sign of 4 or $+$ 4 is positive. The sign of – 4 is negative.	
	Zero does not have a sign. It is not positive or negative.	
solution to an equation	A solution to an equation is a value of a variable that makes the equation true. $3x = 15$	
	For example, 5 is a solution to the equation 3x = 15 because $3(5) = 15$ . $x = 5$	
	6 is not a solution to the equation $3x = 15$ because $3(6) = 15$ is not true. $3(5) = 15$	
solution to an inequality	A solution to an inequality is any value of a variable that makes the inequality true.	
	For example, 5 is a solution to the inequality $x < 10$ because $5 < 10$ . Some other solutions to $x < 10$ are 9.99, 0, and – 4.	
statistic	A statistic is a single number that measures something about a data set.	
Statistic	Examples of statistics: mean, median, MAD and IQR.	
statistical question	<ul> <li>A statistical question requires more than one piece of data to answer it.</li> <li>Here are some examples of statistical questions: <ul> <li>What is the most popular band at your school?</li> <li>When do students in your class typically eat dinner?</li> </ul> </li> </ul>	
sum	A sum describes two or more quantities that are being added together. For example, the area of this rectangle is the sum of $6x$ and $15$ or $6x + 15$ . 2x   5 3 4 <b>Area as a Sum</b> 6x + 15	

Term	Definition		
surface area	The surface area of a polyhedron is the sum of the areas of its faces. If the six faces of a cube each have an area of 9 square centimeters, then the surface area of the cube is $6 \cdot 9$ , or 54 square centimeters.		
table	A table organizes information into horizontal <i>rows</i> and vertical <i>columns</i> . The first row or column usually tells what the numbers represent. Here is a table showing the tail lengths of three different pets. This table has four rows and two columns.	Pet	Tail Length (in.)
		Dog	22
		Cat	12
		Mouse	2
tape diagram	A tape diagram is a long, skinny rectangle cut into shorter lengths. It is used to show relationships between quantities. This tape diagram shows a ratio of 12 gallons of blue paint to 8 gallons of white paint. If each rectangle were labeled 5 instead of 4, then the picture would represent the ratio 15 gallons blue : 10 gallons white.	Blue White 4 4 4 4 4	
term	A term is a part of an expression that involves addition. It can be a single number, a variable, or a variable and a number multiplied together. For example, the expression $5x + 8$ has two terms. The first term is $5x$ and the second term is 8.	Expression 5x + 8 7 Terms	

Term	Definition		
unit price	The <i>unit price</i> is the cost for one item or the cost per item. For example, if 4 avocados cost \$12, then the unit price is $\frac{$12}{4}$ = \$3 per avocado.		
unit rate	A unit rate is a rate per 1. If 12 people share 3 pizzas equally, then one unit rate is 4 people per pizza. Another unit rate is $\frac{1}{4}$ pizza per person.		
variable	A variable is a letter or symbol that represents a number. You can choose different numbers for the value of the variable. In the expression $10 - x$ , the variable is $x$ . If $x = 3$ , then $10 - x = 7$ . If $10 - x = 4$ , then $x = 6$ .		
volume	Volume is the number of cubic units that fill a solid without any gaps or overlaps. The volume of this rectangular prism is 24 cubic units because it is composed of 3 layers that are each 8 cubic units.		