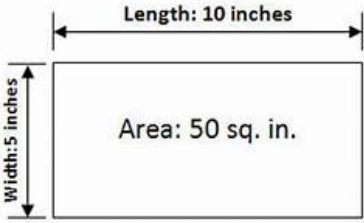
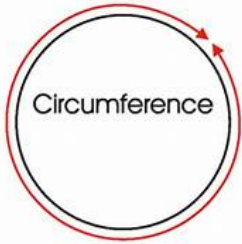
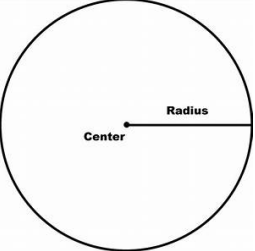
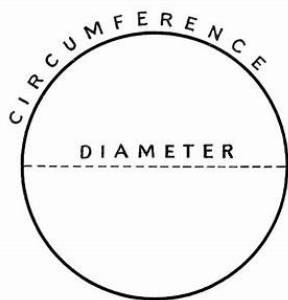
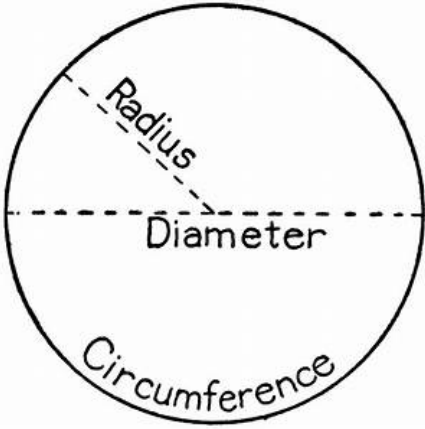
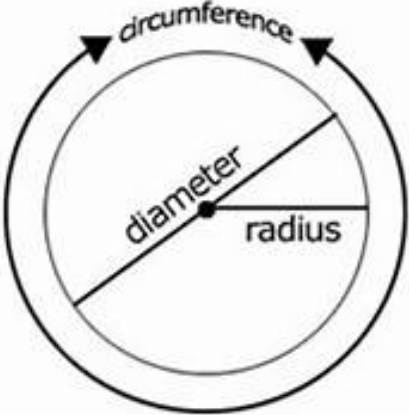
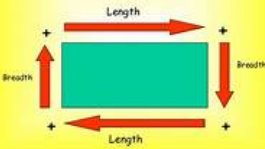


<p>I. Definitions 2/20/2018</p>	<p>Vocabulary, which are to be memorized.</p>
<p>a) Area</p>  <p>The diagram shows a rectangle with a horizontal dimension line above it labeled "Length: 10 inches" and a vertical dimension line to the left labeled "Width: 5 inches". Inside the rectangle, the text "Area: 50 sq. in." is written.</p>	<p>The surface area of a polygon, which are measured in square units. For example square inches (inches²). The amount of paint, wall paper, or drywall you would need to cover a wall. The amount of sod or Astroturf you would need to cover a football field.</p>
<p>b) Π or pi:</p>	<p>Π or Pi is a non-repeating irrational number, which goes on for at least three thousand, non-repeating decimal places: 3.14159265. In math it is often approximated by $22/7$, or just 3.14, if rounded off to the nearest 100th. It is a multi-tasking, general purpose constant, discover by Greek mathematician Archimedes, which is used to calculate circumference, area and volume of circles and spheres.</p> <p>The number π (/pai/) is a mathematical constant. Originally defined as the ratio of a circle's circumference to its diameter, it now has various equivalent definitions and appears in many formulas in all areas of mathematics and physics. It is approximately equal to 3.14159. It has been represented by the Greek letter "π" since the mid-18th century, though it is also sometimes spelled out as "pi".</p> <p>The Greek letter π (pronounced "Pi" or "Pie") is a constant, which describes the relationship between the radius and the circumference of a circle. π is approximately 3.14. It is also approximately 22 divided by 7.</p>
<p>c) Circumference:</p>  <p>The diagram shows a circle with a red arrow tracing the outer edge in a clockwise direction. The word "Circumference" is written inside the circle.</p>	<p>Circumference is the perimeter of a circle. The circumference of a circle is the distance around the edge of a circle. If you walk around the edge of the circle, how far will you travel. It is like the perimeter of a rectangle.</p> <p>The circumference of a circle is the distance around the edge of a circle. If you walk around the edge of the circle, how far will you travel. It is like the perimeter of a rectangle.</p> <p>In 1519, Ferdinand Magellan, died on the way. Except for this tragic fact, his ships became the first to circumnavigate the Earth. With the caveat that ships sail around land masses, this is theoretically similar to the circumference of the Earth. Both in practice, draw a circle around the our Planet. At the very least,</p>

	they share the same root words.	
<p>d) Radius:</p> 	<p>Radius is the distance, in a circle, from the center-point, to the edge of the circle.</p>	<p>Half</p>
<p>e) Diameter:</p> 	<p>Diameter is the distance from one edge of a circle, to the other edge of a circle, which passes through the center-point.</p>	<p>Whole</p>
<p>Parts of a Circle</p> 	<p>Radius Diameter Circumference</p>	

f) perimeter

The perimeter is found by adding up all the length and breadth measurements.



The distance around a two-dimensional shape.

Example: the perimeter of this rectangle is $3+7+3+7 = 20$

The perimeter of a circle is called the circumference.

Perimeter

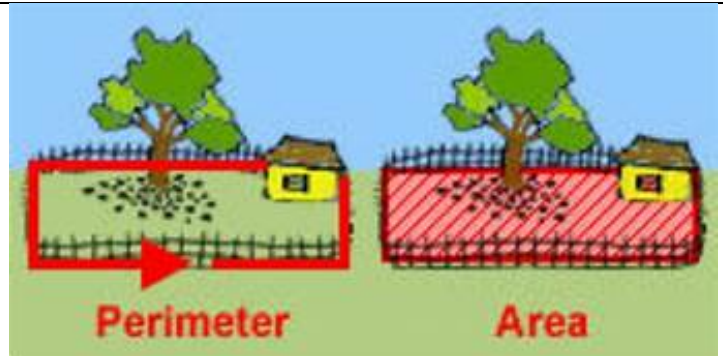
$$P = a + b + c$$



Area

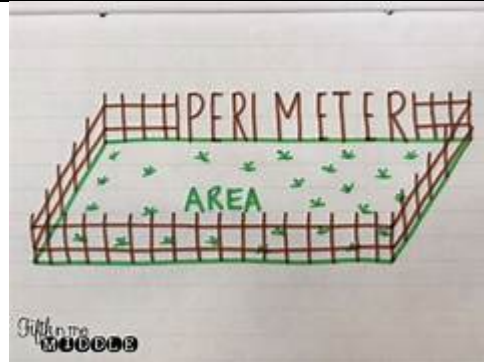
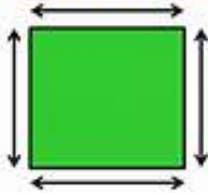


Volume

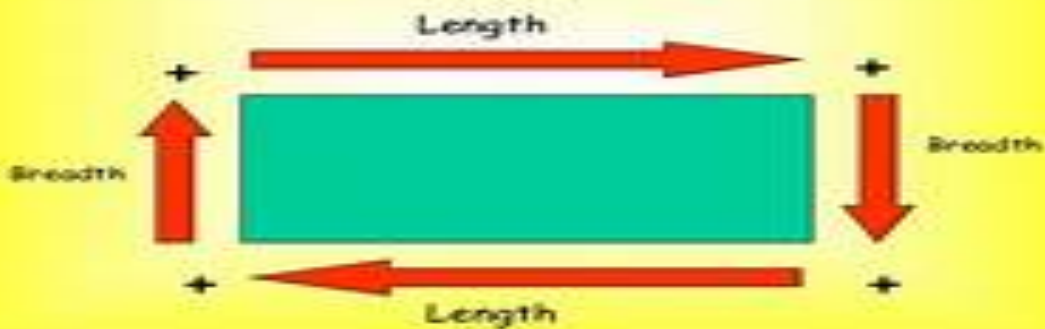


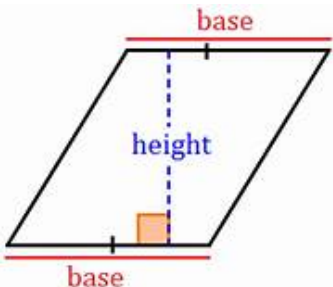
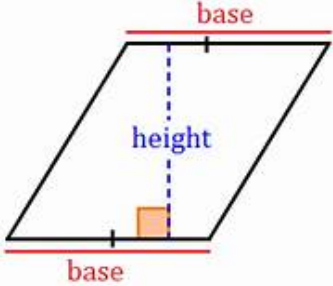
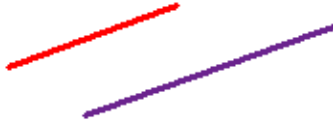
What is Perimeter?

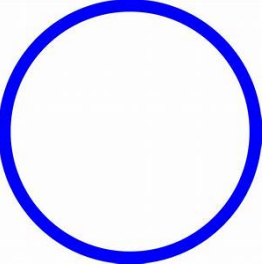


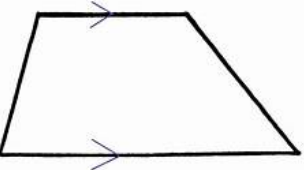
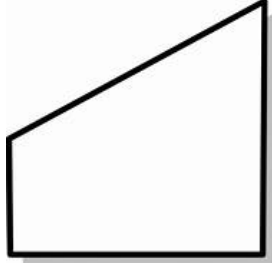
The perimeter is the distance all the way around the outside of a 2D shape.



The perimeter is found by adding up all the length and breadth measurements.

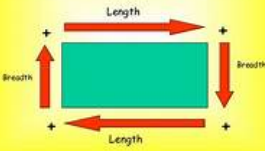


<p>g) Exponent: 2^3</p>	<p>An exponent means that you raise the base number (R) times itself twice. You raise R to the power of two. For example: R^2 is an exponent.</p>	<p>Examples: $2^2 = 2 \times 2$ $3^2 = 3 \times 3$ $R^2 = R \times r$</p>
<p>g) Exponent:</p>	<p>The exponent of a number says how many times to use that number in a multiplication.</p> <p>It is written as a small number to the right and above the base number.</p>	
<p>h) Height</p> 	<p>Height is a right angle, 90° angle, perpendicular. It is also known as an altitude.</p>	
<p>i) Base</p> 	<p>One leg of the triangle. One side of a polygon. The parallel sides of a trapezoid.</p>	
<p>j) Parallel Lines</p> 	<p>Two lines on a plane that never meet. They are always the same distance apart. These lines do not intersect, because they have the same slope. In geometry they are represented by \parallel. Lines are parallel if they lie in the same plane, and are the same distance apart over their entire length.</p> <p>Shorthand notation</p> <p>When we write about parallel lines there is a shorthand we can use. We can write $\overline{PQ} \parallel \overline{RS}$ which is read as "the line segment PQ is parallel to the segment RS".</p> <p>Here the red and blue line segments are parallel (lines at left).</p>	

II. Vocabulary	General Vocabulary, which is important, but need not be memorized.	
<p>a) Circle:</p> 	<p>A Circle is a set of points, which are equidistant from a center-point. Extra-credit: the graph of a circle is: $x^2 + y^2 = \text{Radius}^2$ Extra Credit: Volume of a Sphere = $\frac{4}{3} \pi R^3$</p>	
<p>Trapezoid</p>  <p>trapezoid</p>	<p>A quadrilateral which has at least one pair of parallel sides.</p>	
<p>3 Types of Trapezoids</p>  <p>trapezoid</p>		
<p>Trapezoid, which if extended, would form a pyramid</p>	<p>Garden variety trapezoid</p>	<p>Trapezoid with a right angle</p>
<p>Base</p>	<p>One of the parallel sides. Every trapezoid has two bases. See Base definitions.</p>	
<p>Leg</p>	<p>The sides AC and BD above are called the legs of the trapezoid, and are usually not parallel, although they could be (see parallelogram note below). Every trapezoid has two legs.</p>	
<p>Altitude</p>	<p>The altitude of a trapezoid is the perpendicular distance from one base to the other. (One base may need to be extended).</p>	
<p>Median</p>	<p>The median of a trapezoid is a line joining the midpoints of the two legs. See Trapezoid median</p>	
<p>Area</p>	<p>The usual way to calculate the area is the average base length times altitude. See Area of a Trapezoid</p>	

Perimeter

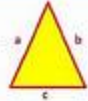
The perimeter is found by adding up all the length and breadth measurements.



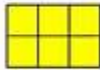
The distance a round the trapezoid. The sum of its side lengths. See [Perimeter of a Trapezoid](#)

Perimeter

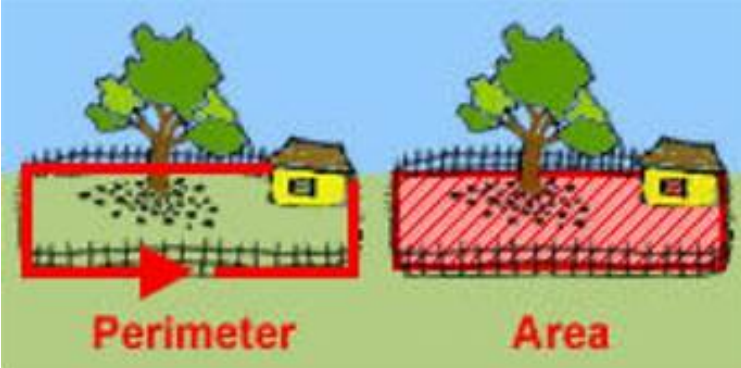
$$P = a + b + c$$



Area

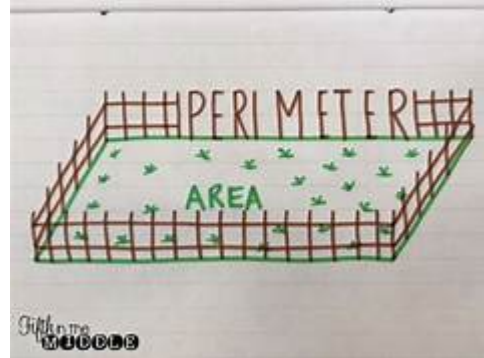
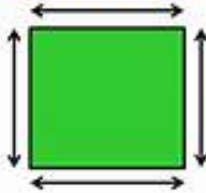


Volume

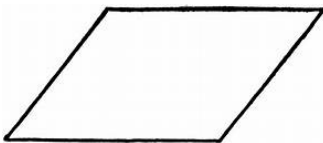


What is Perimeter?

The perimeter is the distance all the way around the outside of a 2D shape.



Parallelograms



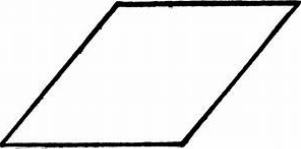
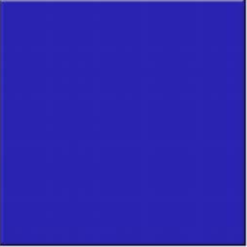

Parallelogram.

A 4-sided flat shape with straight sides where **opposite sides are parallel.**

Also:

- opposite sides are equal in length, and
- opposite angles are equal (angles "a" are the same, and angles "b" are the same)

NOTE: Squares, Rectangles and Rhombuses are all Parallelograms!

<p>Rhombuses</p>  <p>Rhombus.</p>	<p>A 4-sided flat shape with straight sides where all sides have equal length.</p> <p>Also opposite sides are parallel and opposite angles are equal.</p> <p>It is a type of parallelogram.</p>
<p>Square</p> 	<p>A 4-sided flat shape with straight sides where:</p> <ul style="list-style-type: none"> • all sides have equal length, and • every interior angle is a right angle (90°) <p>It is a Quadrilateral and a Regular Polygon</p>
<p>Rectangle</p> 	<p>A 4-sided flat shape with straight sides where all interior angles are right angles (90°).</p> <p>Also opposite sides are parallel and of equal length.</p> <p>Example: A square is a special type of rectangle.</p>