

## TEST REVIEW – GEOMETRY

**Polygons:** A 2-dimensional closed figure made up of line segments.

Triangle: 3 sides

Heptagon: 7 sides

Quadrilateral: 4 sides

Octagon: 8 sides

Pentagon: 5 sides

Nonagon: 9 sides

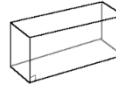
Hexagon: 6 sides

Decagon: 10 sides

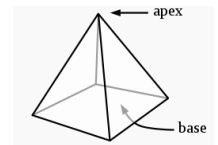
Regular polygon: a polygon with congruent sides and angles



**Prisms:** a 3-D solid with congruent parallel faces



**Pyramids:** a 3-D solid whose base is a polygon that connects to a point called an apex.



### **Quadrilateral Types:**

Square: A quadrilateral with four congruent sides and four  $90^\circ$  angles

Rectangle: A quadrilateral with two pairs of parallel lines and four  $90^\circ$  angles

Rhombus: A quadrilateral with four congruent sides and opposite angles equal

Parallelogram: A quadrilateral with 2 pairs of parallel sides (includes a square, rectangle, and rhombus)

Trapezoid: A quadrilateral with exactly one pair of parallel lines

Sum of degrees in a quadrilateral =  $360^\circ$

### **Area and Perimeter**

Perimeter of Polygons: Sum of sides

Area of a triangle:  $(\text{Base} \times \text{height}) \div 2$

Area of parallelogram:  $\text{base} \times \text{height}$

Area of Trapezoid:  $[(\text{base} + \text{base}) \times \text{height}] \div 2$

## **Triangle Types:**

Acute Triangle: a triangle with all angles less than  $90^\circ$

Right Triangle: a triangle with one  $90^\circ$  angle

Obtuse Triangle: a triangle with one angle greater than  $90^\circ$

Scalene Triangle: a triangle with no congruent side lengths

Isosceles Triangle: a triangle with two or more congruent side lengths

Equilateral Triangle: a triangle with 3 congruent side lengths

Triangle inequality: The sum of the two shorter lengths of a triangle must be greater than the longest side (ex: 5cm, 6 cm, 8 cm works because  $5 + 6 > 8$ )

Sum of degrees in a triangle =  $180^\circ$

## **Circles and Spheres**

Area of a circle =  $\pi r^2$

Circumference of a circle =  $\pi d$

Surface Area of a sphere =  $4\pi r^2$

## **Volume and Surface Area of Prisms**

Surface Area: sum of area of faces

Volume: area of base x height

## **Angles**

Adjacent Angles: angles beside each other that have a common side and common vertex

Vertical angles: angles opposite other when two lines cross (congruent measures)

Complementary Angles: Two angles that have a sum of  $90^\circ$

Supplementary Angles: Two angles that have a sum of  $180^\circ$

## **Cross Sections :**

A cross section is the two dimensional shape you get when cutting through a 3-D solid. Be sure to understand horizontal, vertical, and diagonal cross sections. (Remember the Play-doh Lab?)

**Lastly, be sure you can measure and construct angles, triangles, and quadrilaterals with a protractor.**

GOOD LUCK!!