GEOMETRY REVIEW

Today we will review geometry that you should have learned in your previous math experiences. We will focus on angles, shapes and congruent triangles today.

Angles:
- Acute Angle
- Obtuse Angle
- Right Angle

Properties:
- Complementary Angles add to $90^\circ$
- Supplementary Angles add to $180^\circ$
- Angles on a line add to $180^\circ$
- Angles at a point add to $360^\circ$
- Vertically opposite angles are equal
- Straight line equals $180^\circ$
Shapes:

Triangles (sum of all the angles is 180°):

Scalene triangle:
No equal sides
No equal angles

Right triangle:
One 90° angle
Pythagorean theory
\[ a^2 + b^2 = c^2 \]

Isosceles triangle:
At least two equal sides
Angles opposite the equal sides are equal

Equilateral triangle:
Three equal sides
Three equal angles – all 60°
Quadrilaterals (sum of all angles is $360^\circ$):

**Quadrilateral:**
- Four sides
- Sum of all angles is $360^\circ$

**Parallelogram:**
- Opposite sides are parallel and equal
- Opposite angles are equal

**Rectangle:**
- Opposite sides are parallel and equal
- All angles are right angles
- Diagonals are equal and bisect each other

**Rhombus:**
- Parallelogram with all sides being equal
- Diagonals bisect each other at right angles and are equal

**Square:**
- A square with four equal sides or a rhombus with right angles
Circles:

Radius:
Line formed between the center and the edge

Diameter:
Chord that goes through the center
Length is equal to twice the radius

Angle around the center of the circle is 360°
Congruent triangles:

Congruency – size and shape are identical. For triangles corresponding angles and sides are equal.

Conditions for congruency for triangles:

SSS – Side, Side, Side – Three corresponding sides are equal.

SAS – Side, Angle, Side – Two corresponding sides are equal and a corresponding angle between the sides are equal.

ASA – Angle, Side, Angle – Two corresponding angles are equal and one corresponding side is equal.

SSS

SAS

ASA
Applying Geometric Properties:

\[ \angle 1 = \text{__________________________} \]
\[ \angle 2 = \text{__________________________} \]
\[ \angle 3 = \text{__________________________} \]
\[ \angle 4 = \text{__________________________} \]

Explain why the two triangles must be congruent.

Assignment:
Geometry review package (above) and pg 382 #1-8, pg 383 #1-4