Angles:

· You should be able to:
  - Classify angles as acute, obtuse, right, adjacent, vertical, supplementary or complimentary and use all names that apply.

Ex:

\[ \angle ABC = \text{ obtuse } \]
\[ \angle ABD = \text{ obtuse } \]
\[ \angle CBD = \text{ acute } \]
\[ \angle ABC \text{ and } \angle CBD = \text{ adjacent } \]

Ex:

\[ \angle FEG = \text{ Right } \]
\[ \angle FEH = \text{ acute } \]
\[ \angle HEG = \text{ acute } \]
\[ \angle FEH \text{ and } \angle HEG = \text{ adjacent } \]
\[ \text{ and } \text{ complimentary } \]

Ex:

\[ \angle IJL = \text{ obtuse } \]
\[ \angle IJK = \text{ straight } \]
\[ \angle LJK = \text{ acute } \]
\[ \angle LJI \text{ and } \angle KJL = \text{ adjacent and } \text{ supplementary } \]

- Identify the vertices of the previous three examples.
  1) B
  2) E
  3) J
You should be able to use angle relationships to find missing angle measures.

**Ex:** The measure of angle 1 is 30°. Angles 1 and 2 are complimentary. Find the measure of angle 2.

60° (Because 90-30 is 60)

**Ex:** The measure of angle 1 is 125°. Angles 1 and 2 are supplementary. Find the measure of angle 2.

55° (because 180-125 is 55°)

**Ex:** Angles 1 and 2 are vertical. The measure of angle 1 is 45°. Find the measure of angle 2.

45° (Because vertical angles are the same size)

Use the given information to find the value of x.

**Ex:**

\[
3x + x + 20 = 180
\]

\[
4x + 20 = 180
\]

\[
x = 40
\]

**Ex:**

\[
5x - 30 = 90
\]

\[
x = 20
\]

\[
170 - x + x - 30 + x + x
\]

\[
170 = 2x - 30
\]

\[
+30 +30
\]

\[
200 = 2x
\]

\[
100 = x
\]
**Angles formed by a Transversal:**

- You should be able to identify angle pairs formed by a transversal intersecting parallel lines and use their relationships to find missing angle measures.

![Diagram of parallel lines and transversal](image)

**Ex:** Which two lines are parallel? ____  

**Ex:** Which line is the transversal? ____

**Ex:** Give one pair of corresponding angles: ____

**Ex:** Give one pair of vertical angles: ____

**Ex:** Give one pair of alternate interior angles: ____

**Ex:** Give one pair of supplementary angles: ____

**Ex:** Give one pair of alternate exterior angles: ____

**Find the missing angle measures. Give the reason you know.**

**Ex:** Find \( m\angle 1 \) if \( m\angle 2 \) is 50\(^\circ\).

Measure: ____
Reason: ____

**Ex:** Find \( m\angle 8 \) if \( m\angle 1 \) is 140\(^\circ\).

Measure: ____
Reason: ____

**Ex:** Find \( m\angle 6 \) if the \( m\angle 4 \) is 30\(^\circ\).

Measure: ____
Reason: ____

**Ex:** Find \( m\angle 2 \) if \( m\angle 6 \) is 60\(^\circ\).

Measure: ____
Reason: ____
Ex: Find $m\angle 3$ if the $m\angle 1$ is $92^\circ$.

Measure: _____92°_____

Reason: _____Vertical Angles_____________

**Triangles:**

- You should be able to classify a triangle by its sides and angles.
- You should be able to find missing measures in triangles.

**Ex:** A triangle with no equal sides is called: _____scalene_________

**Ex:** A triangle with all equal sides is called: _____equilateral_________

**Ex:** A triangle with 2 equal sides is called: _____isosceles_________

**Ex:** A triangle with 1 ___obtuse________ angle is called: ____an obtuse triangle_________

**Ex:** A triangle with 1 ___right________ angle is called: ____a right triangle_________

**Ex:** A triangle with 3 ___acute________ angles is called: ____an acute triangle_________

**Ex:** The number of sides equal in a triangle is also the number of ___angles_______ that are equal. For example, if a triangle is isosceles, then it would be have _2_______ equal angles.

**Find the missing angle measure:**

**Ex:**

\[
2x + 96 + x = 180 \\
3x + 96 = 180 \\
3x = 84 \\
x = 28
\]

**Ex:**

\[
50 + 70 + 3x = 180 \\
120 + 3x = 180 \\
3x = 60 \\
x = 20
\]

Find $x$ first:

Then find $y$ (which is supplementary to the $3x$ angle which now equals 60. So $y = 120$ since that is $180 - 60$