Unit 1 Review Stations

Learning Target:
I can define geometrically the terms angle, circle, perpendicular line, parallel line, and line segment.

In your own words explain each term. Draw and label a diagram to illustrate each.

1) angle - 2 rays w/ same endpt.  \[ \overrightarrow{AB} \]

2) circle - all coplanar pts each the same distance from a center

3) perpendicular lines - 2 lines that intersect @ rt.  \( \theta \)  (90°)

4) line segment - part of a line, has 2 endpoints. \[ \overline{AB} \]

5) ray - one endpt + goes on forever in one direction

6) central angle
   - angle whose vertex is at the center of a circle
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Learning Target:
I can define and classify polygons.

1) Sketch and label concave heptagon AMYLOWN.

2) Explain the difference between concave and convex.
   concave has at least one diagonal outside where convex has all diagonals inside.

3) Sketch equiangular pentagon GIZMO.

4) Sketch equilateral nonagon QWERTYUIO.

5) If the perimeter of $\text{JUMPED}$ is 48 cm, what is $\text{UM}$?
   \[
   \frac{49}{6} = 8 \text{ cm}
   \]

6) Sketch scalene triangle PTS with PS=3, ST=5, PT=7 and angle bisector $\overline{SD}$.
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Learning Target:
I can define and classify quadrilaterals.

1) True or False (provide a counterexample if false): A rectangle is sometimes a square.

2) Sketch a kite KYTE with $KY = YT$.

3) Sketch a trapezoid TRAP with $AR$ and $PT$ the nonparallel sides. Let $E$ be the midpoint of $PT$ and let $Y$ be the midpoint for $AR$.

4) Draw a Venn diagram to relate all of the quadrilaterals that we have learned.

5) True or False (provide a counterexample if false): A square is a rectangle with all the sides equal in length.

6) Explain the difference between a parallelogram and a trapezoid.

Parallelogram has 2 prs. of || sides + a trapezoid has exactly one pr. of || sides.
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Learning Targets:
I can visualize cross-sections of solids and identify geometric solids by name and characteristics.

1) If a cylinder is sliced by a vertical plane, what shape is the cross section? rectangle

2) If a square pyramid is sliced by a horizontal plane, what shape is the cross section? square

3) Find the lengths of x and y.
   \[ x = 2 \]
   \[ y = 1 \]

4) Sketch and name the solid formed by the net.
   pentagonal prism

5) True or False (provide a counterexample if false): The cross section of a pentagonal pyramid is a pentagon. only if it is parallel to the base, otherwise, could be \( \triangle \).

6) True or False (provide a counterexample if false): The cross section of a sphere is a circle.
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Learning Target:
I can prove theorems about lines and angles.

1) Use a labeled figure to define a linear pair of angles.
   \[ \angle 2 \text{ and } \angle 5 \text{ that make a line (must share a side)} \]
   \[ \angle ABD + \angle CED \text{ make a linear pair} \]

2) Draw and label an angle bisector. Explain the definition
   \[ \angle 2 \cong \angle 5. \]
   \[ \overrightarrow{BC} \text{ bisects } \angle ABD \]

3) \( \angle XQA \text{ and } \angle XQY \) share a vertex and a side. Taken
   together they form the larger angle \( \angle AQY \). Compare their
   measure. Does \( m\angle XQA + m\angle XQY = m\angle AQY \)? Explain and
draw a diagram to assist your explanation.
   Yes, the 2 adjacent \( \angle s \) have a sum
   equal to the larger \( \angle \).

4) Draw two segments that have the same midpoint. Mark
   your drawing to show congruent segments.

5) Points A, B, and C are collinear. Point C is between A and
   B. If \( AC = 12 \text{ cm} \) and \( AB = 25 \text{ cm} \), explain how to find \( BC \).
   \[ AB - AC = BC \quad \text{so} \quad 25 - 12 = 13 \text{ cm} \]

6) If you know the measure of one angle in a linear pair is \( X \),
   explain how to find the measure of the other angle. Provide
   a diagram and an expression for the other angle.

\[ \text{Since a linear pair has a sum of } 180^\circ, \]
\[ \text{you can take } 180 - X \]
\[ \text{to find the other } \angle. \]
Unit 1 Review Stations

Learning Target:
I can apply postulates and theorems to find unknown angles measures and side lengths.

1. $\angle 1$ and $\angle 2$ are Supplementary $m\angle 1=2x+3$, $m\angle 2=3x-8$ What do the angles measure? 

$$2x + 3 + 3x - 8 = 180$$
$$5x - 5 = 180$$
$$5x = 185$$
$$x = 37$$

$$2(37) + 3 \neq 37 - 8$$

2. $\angle 1$ and $\angle 3$ are vertical angles $m\angle 1 = 10x + 20$, $m\angle 3 = 120$ find $x$.

$$10x + 20 = 120$$
$$10x = 100$$
$$x = 10$$

3. if $\angle 2$ and $\angle 4$ are vertical angles and complementary angles what do the angles measure?

$$90^\circ \text{ each}$$

4. In the diagram below, identify lines that are perpendicular to each other.

Sample: $GH \perp HE$

5. In the diagram below, identify lines that are parallel to each other.

Sample: $IJ \parallel FB$

6. $\angle BGA = \angle IDG$ if $m\angle BGA = 10x + 25$ and $m\angle IDG = 4x + 55$, what is the angle measure?

$$10x + 25 = 4x + 55$$
$$-4x$$

$$6x + 25 = 55$$
$$-25$$

$$6x = 30$$
$$x = 5$$

$$10(5) + 25$$

$$50 + 25$$

$$75^\circ$$
Unit 1 Review Stations

Learning Target:
I can recognize or recall specific terminology such as: angle, circle, perpendicular line, parallel line, and line segment

Sketch, mark, and label each figure

1. $\overline{AB}$ bisects $\angle CAD$

2. Tangent $\overline{AB}$ Perpendicular to the Diameter $\overline{CD}$ of circle P

3. $\overline{AB} \parallel \overline{CD}$ and $\overline{DB}$ form $\angle DBA$

4. $ABC$ is a major arc and central angle $m\angle APB = 50^\circ$

5. two triangles $\triangle ABC = \triangle DEF$ and $m\angle B = 75^\circ$

6. $\overline{AB} \perp \overline{CD}$ and $BD = 4\text{cm}$