1. Which does **not** name the angle below?

   ![Diagram showing angles DCE, CDE, ECD, and C]

   **The vertex “C” has to be the middle letter when using 3 letters to name the angle.**

   a. \( \angle DCE \)  
   b. \( \angle CDE \)  
   c. \( \angle ECD \)  
   d. \( \angle C \)

2. \( m\angle OMN = (2x + 9)^\circ \) and \( m\angle LMN = (6x - 7)^\circ \) and \( m\angle OML = 34^\circ \). Find \( m\angle OMN \).

   \[
   6x - 7 + 2x + 9 = 34 \\
   8x + 2 = 34 \\
   8x = 32 \\
   x = 4
   \]

   \( \frac{8x}{8} = \frac{32}{8} \)

   \( x = 4 \)

   \[
   m\angle OMN = 2x + 9 = 2(4) + 9 = 8 + 9 = 17^\circ
   \]

3. The measure of angle \( A \) is 98°. Classify angle \( A \) as an acute, right, or obtuse angle. **Obtuse**

4. \( \overrightarrow{AB} \) bisects \( \angle LAX \) and \( \angle LAB \) measures 68°. Find the measure of \( \angle XAB \). Draw a picture!

   \[
   m\angle XAB = 68^\circ
   \]

5. If \( \angle R \) and \( \angle S \) are complementary and \( m\angle R = 35^\circ \), then

   a. \( m\angle S = 145^\circ \)  
   b. \( m\angle S = 125^\circ \)  
   c. \( m\angle S = 55^\circ \)  
   d. \( m\angle S = 215^\circ \)

6. If \( \angle G \) and \( \angle H \) are supplementary and \( m\angle H = 67^\circ \), then **113°**.

   \[
   180^\circ - 67^\circ = 113^\circ
   \]

7. Solve for \( x \):

   \[
   4x + 90 + 2x + 72 = 180 \\
   6x + 162 = 180 \\
   6x = 18 \]  
   \[
   \frac{6x}{6} = \frac{18}{6} \]

   \( x = 3 \)

   \[
   4x - 3 = 2x + 9 \\
   -2x = -2x + 12 \\
   2x = 12 \]  
   \[
   \frac{2x}{2} = \frac{12}{2} \]

   \( x = 6 \)
8. \( \angle 1 \) and \( \angle 2 \) form a linear pair. \( m \angle 1 = 73^\circ \). Find \( m \angle 2 \).

\[ 180^\circ - 73^\circ = 107^\circ \]

9. Name two pairs of vertical angles in the figure above. \( \angle 1 \) and \( \angle 3 \), \( \angle 2 \) and \( \angle 4 \)

**Writing:**

10. Explain how you would tell another student how to find the value of \( x \) in the figure below.

\[ \text{Add all 3 angles together and set it equal to } 180^\circ \]

11. Which figure below is **not** a polygon?

   a. 
   b. 
   c. 
   d. 

12. Which one of the statements below is **false**?
   a. A circle is NOT a polygon.
   b. An octagon has 8 angles.
   c. A decagon has 10 sides.
   d. A pentagon has 9 sides.

13. Name a polygon with 6 sides.

   a. pentagon
   b. octagon
   c. quadrilateral
   d. hexagon

14. Complete the statement. A regular polygon is both equilateral and equiangular.

15. Name a polygon with 10 sides. **Decagon**

16. The lengths (in inches) of two sides of a regular octagon are represented by the expressions \( 2x + 4 \) and \( 3x - 8 \). Find the length of a side of the octagon.

   \[ \frac{2x + 4 = 3x - 8}{-3x} \]

   \[ \frac{4 = x - 8}{+8} \]

   \[ \frac{12 = x}{2} \]

   \[ 2(12) + 4 = 24 + 4 = 28 \text{ units} \]

   \[ 3(12) - 8 = 36 - 8 = 28 \text{ units} \]

17. Explain why the hexagon is **not regular**.

   All of the sides are **not** congruent so the figure can't be regular.

   Regular means **ALL** sides and **ALL** angles are congruent.