Review: Interior and Exterior Angles

1. Given a regular 13 - sided figure
   a. Find the sum of interior angles:
      \[1980^\circ\]
   b. Find the measure of one interior angle:
      \[152.31^\circ\]
   c. Find the sum of exterior angles:
      \[360^\circ\]
   d. Find the measure of one exterior angle:
      \[27.69^\circ\]

2. Given a regular 35 - sided figure
   a. Find the sum of interior angles:
      \[5940^\circ\]
   b. Find the measure of one interior angle:
      \[170.57^\circ\]
   c. Find the sum of exterior angles:
      \[360^\circ\]
   d. Find the measure of one exterior angle:
      \[10.29^\circ\]

3. Given a regular 40 - sided figure
   a. Find the sum of interior angles:
      \[3640^\circ\]
   b. Find the measure of one interior angle:
      \[91^\circ\]
   c. Find the sum of exterior angles:
      \[360^\circ\]
   d. Find the measure of one exterior angle:
      \[5.63^\circ\]

4. Given a regular 64 - sided figure
   a. Find the sum of interior angles:
      \[5936^\circ\]
   b. Find the measure of one interior angle:
      \[174.38^\circ\]
   c. Find the sum of exterior angles:
      \[360^\circ\]
   d. Find the measure of one exterior angle:
      \[5.63^\circ\]
Identify the type of angles that are shown below.

1. \(\text{Alternate Interior} \)

2. \(\text{Supplementary} \)

3. \(\text{Complementary} \)

4. \(\text{Vertical} \)

5. \(\text{Alternate Exterior} \)

6. \(\text{Corresponding} \)

7. Given the diagram below give an example of the following types of angles:

   - **Alternate Interior Angles** \(\text{C}^\circ, \text{F}^\circ \text{ or } \text{E}^\circ, \text{D}^\circ \)
   - **Vertical Angles** \(\text{A}^\circ, \text{B}^\circ, \text{C}^\circ, \text{D}^\circ, \text{E}^\circ, \text{F}^\circ, \text{G}^\circ, \text{H}^\circ \text{ etc.} \)
   - **Supplementary Angles** \(\text{A}^\circ, \text{B}^\circ, \text{C}^\circ, \text{D}^\circ, \text{E}^\circ, \text{F}^\circ, \text{G}^\circ, \text{H}^\circ \text{ etc.} \)
   - **Corresponding Angles** \(\text{A}^\circ, \text{E}^\circ, \text{B}^\circ, \text{F}^\circ, \text{D}^\circ, \text{H}^\circ \text{ etc.} \)
   - **Exterior Angles** \(\text{A}^\circ, \text{H}^\circ, \text{B}^\circ, \text{G}^\circ \text{ etc.} \)
Use the figure to find the measures of the numbered angles. Justify your measures.

1. \[1 = 115^\circ\]
   \[2 = 60^\circ\]

2. \[1 = 104^\circ\]
   \[2 = 74^\circ\]

3. Find the measure of the following angles given the figure below.
   
   a. \[\angle 1 = 135^\circ\]
   b. \[\angle 2 = 41^\circ\]
   c. \[\angle 3 = 135^\circ\]
   d. \[\angle 4 = 135^\circ\]
   e. \[\angle 5 = 41^\circ\]
   f. \[\angle 6 = 135^\circ\]
   g. \[\angle 7 = 41^\circ\]

4. Using the above figure, identify an example of the following:
   a. Alternate Interior Angles \[\angle 3, \angle 4\]
   b. Corresponding Angles \[\angle 2, \angle 5\]
   c. Supplementary Angles \[\angle 2, \angle 3\]
   d. Vertical Angles \[\angle 5, \angle 7\]
   e. Alternate Exterior Angles \[\angle 2, \angle 7\]

   Other possible answers:

Correct the following statements about the numbered angles by filling in the blanks with the correct words.

5. \[\angle 2\] is congruent to \[\angle 4\] because \underline{\text{Vertical \& \angle's}}. \[\angle 4\] is congruent to \[\angle 8\] because \underline{\text{Corresponding}}. So, \[\angle 2\] is \underline{Alternate \ exterior} to \[\angle 8\].

6. \[\angle 5\] is congruent to \[\angle 3\] because \underline{Alternate \ interior}. \[\angle 3\] is congruent to \[\angle 1\] because \underline{Vertical \& \angle's}. So, \[\angle 5\] is \underline{Congruent} to \[\angle 1\].