Worksheet 3: Angles and Polygons

Show all work for full credit.

1. Find the measure of $\angle x$ in the following polygon. (2 points)

![Polygon with various angles](image)

2. In a regular polygon, an interior angle has measure $157.5^\circ$. How many sides does the polygon have? (2 points)

3. Find the measure of each interior angle of a regular octagon. (2 points)

4. Determine all symmetries for the figures below. Lines? Rotational? Point? (2 points each)
   a.
   ![Figure a](image)
   b.
   ![Figure b](image)
5. Using the following figure, determine the measure of $\angle H$. **Justify all congruencies.** (4 points)

6. Using the following figure, determine the measure of $\angle B$, $\angle H$, $\angle K$, and $\angle T$. **Justify all congruencies.** (8 points)