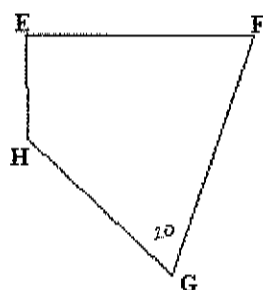
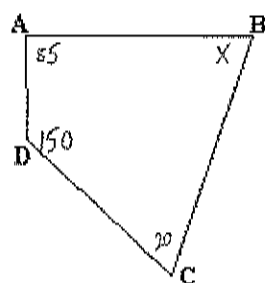


Congruent Parts

Congruent Polygons are same size & same shape. This means that each side of one polygon is congruent to a corresponding side of the other. The same holds true for angles.

$$ABCD \cong EFGH$$



Corresponding Sides are: $\overline{AD} \cong \overline{EH}$ $\overline{BC} \cong \overline{FG}$
 $\overline{AB} \cong \overline{EF}$ $\overline{DC} \cong \overline{HG}$

Corresponding Angles are: $\angle A \cong \angle E$ $\angle C \cong \angle G$
 $\angle D \cong \angle H$ $\angle B \cong \angle F$

In the diagram above, $m\angle A = 85$, $m\angle D = 150$, and $m\angle G = 20$. Find the measure of $\angle B$.

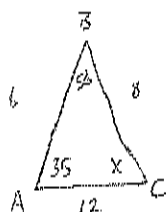
$$\begin{aligned} \text{Sum} &= 180(n-2) \\ &= 180(4-2) \\ &= 180(2) \\ &= 360 \end{aligned}$$

$$\begin{aligned} 85 + 150 + 20 + X &= 360 \\ 255 + X &= 360 \\ -255 & \quad -255 \\ \hline X &= 105^\circ \end{aligned}$$

If two polygons are congruent, then Corresponding Parts of congruent polygons are congruent.

Try: $\triangle ABC \cong \triangle PRS$. If $m\angle A = 35^\circ$ and $m\angle R = 56^\circ$, find:

a) $m\angle C$



$$X + 35 + 56 = 180$$

$$X + 91 = 180$$

$$X = 89$$

b) If $AB = 6$, then and $BC = 8$, could $SP = 12$? Justify your answer.

$$8 + 6 = 14$$

yes, the two smaller sides add to more than 12.

