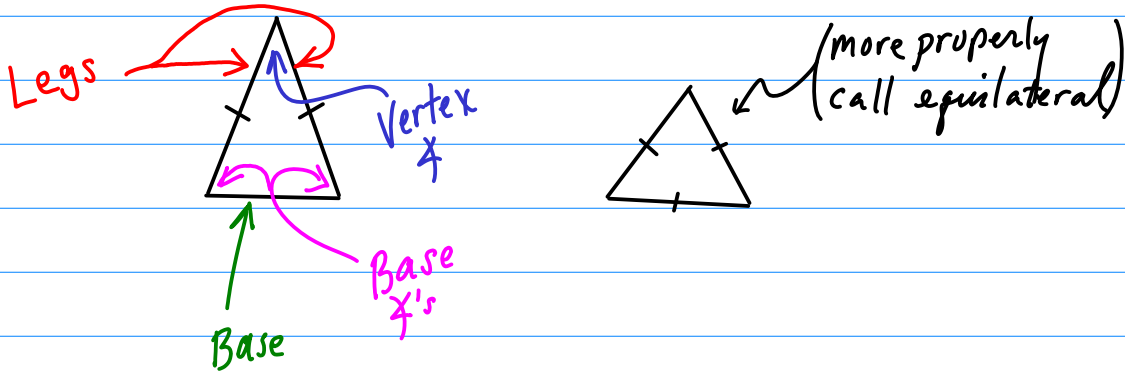
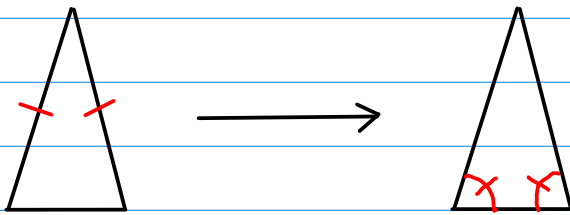


§4.2: Isosceles Δ 's

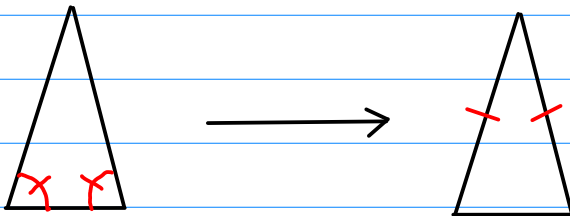
* Defn of Isosceles Δ : a Δ w/ at least 2 \cong sides



* Isosceles Δ Conjecture: If a Δ is isosceles, then its base angles are \cong .

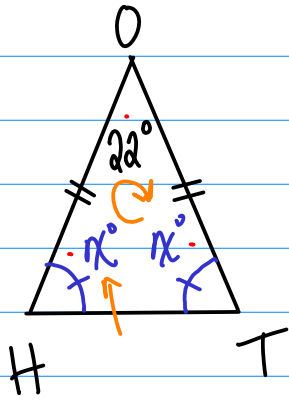


* Converse of Isos. Δ Conjecture: If 2 angles of a Δ are \cong , then the Δ is isosceles.





Ex:

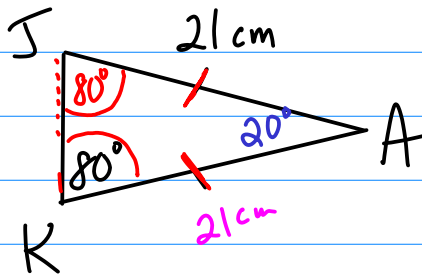


$m\angle H = ?$

$$\begin{aligned}
 22^\circ + x^\circ + x^\circ &= 180^\circ \\
 22^\circ + 2x^\circ &= 180^\circ \\
 -22^\circ &\quad -22^\circ \\
 \hline
 2x^\circ &= 158^\circ \\
 \frac{2x^\circ}{2} &= \frac{158^\circ}{2} \\
 x^\circ &= 79^\circ \\
 \boxed{m\angle H = 79^\circ}
 \end{aligned}$$

$$\begin{array}{r}
 2 \\
 79 \\
 79 \\
 \hline
 22 \\
 \hline
 180 \checkmark
 \end{array}$$

Ex:



Given: Perimeter of $\triangle JAK$ is 49.5 cm.

$$\begin{aligned}
 m\angle J &= 80^\circ \\
 m\angle A &= 20^\circ \\
 JK &= 7.5 \text{ cm}
 \end{aligned}$$

$$JK + 21 + 21 = 49.5$$

$$\begin{aligned}
 JK + 42 &= 49.5 \\
 -42 &\quad -42.0 \\
 \hline
 JK &= 7.5
 \end{aligned}$$