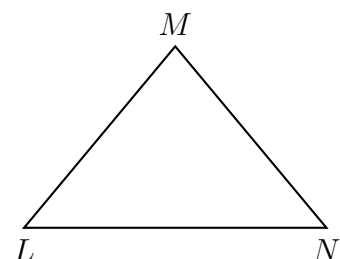


2.10 PreTest: Applying triangle theorems

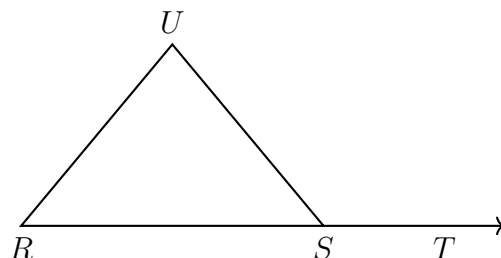
1. A triangle has two angles measuring 80° and 60° respectively. Find the measure of the third angle.

2. Given $\triangle LMN$ with $m\angle L = 2x + 20$, $m\angle N = 3x + 5$, and $m\angle M = 5x + 5$. Find x .

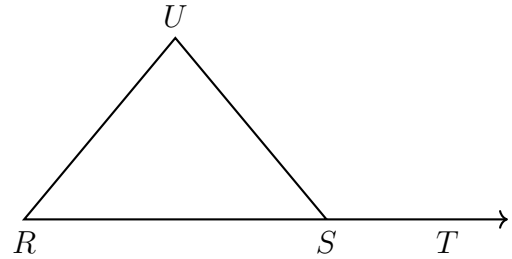


3. The measures in degrees of the three angles of a triangle are $3x$, $\frac{1}{2}x + 7$, and $5x - 65$. Find x .

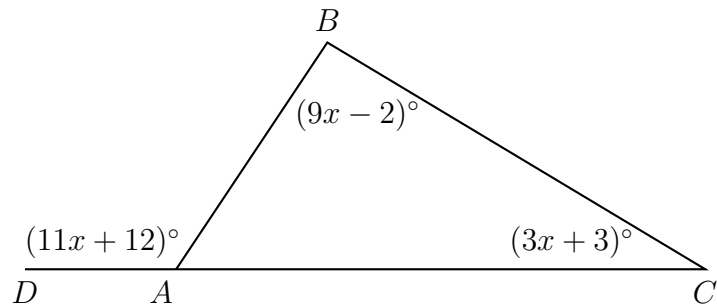
4. Given $\triangle RSU$. If $m\angle UST = 155^\circ$ and $m\angle R = 60^\circ$, find $m\angle U$.



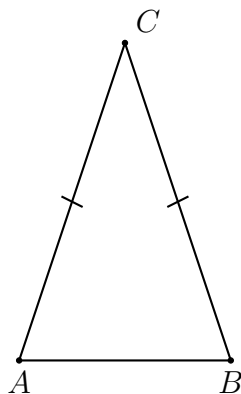
5. Given $\triangle RSU$. If $m\angle UST = x$ and $m\angle R = x - 80$, and $m\angle U = x - 50$. Find x .



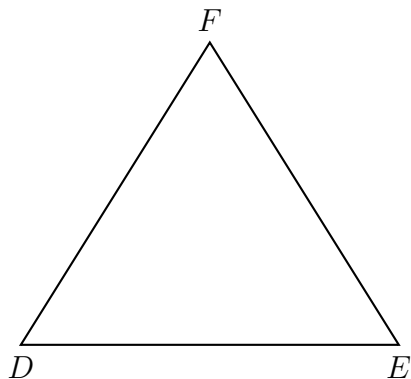
6. In $\triangle ABC$ shown below, side \overline{AC} is extended to point D with $m\angle DAB = (11x + 12)^\circ$, $m\angle C = (3x + 3)^\circ$, and $m\angle B = (9x + 2)^\circ$. Find $m\angle BAC$.



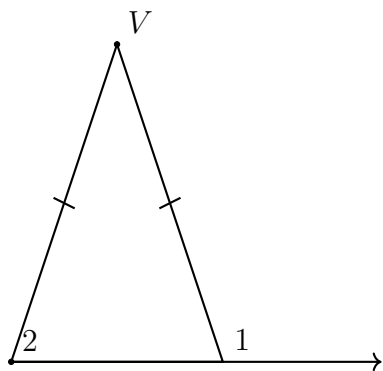
7. Given $\triangle ABC$. $\overline{AC} \cong \overline{BC}$, $m\angle A = 55$. Find $m\angle C$.



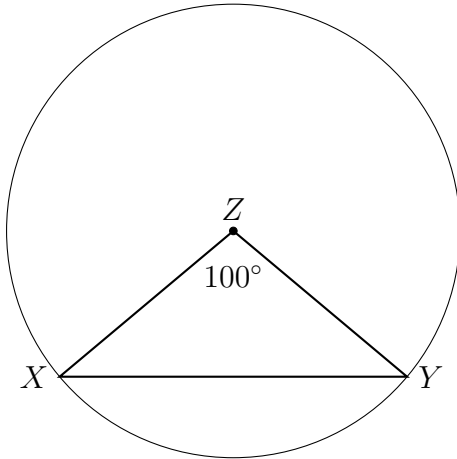
8. Given $\triangle DEF$. $\overline{DF} \cong \overline{EF}$, $m\angle F = 72$. Find $m\angle D$.



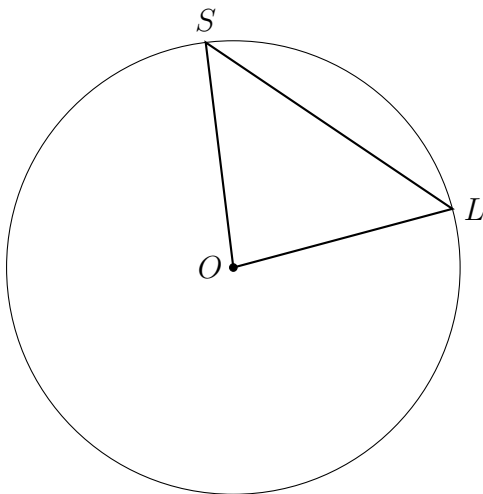
9. Given the triangle shown with congruent sides marked. $m\angle 1 = 110$. Find $m\angle 2$
Spicy: Find the measure of the vertex angle.



10. Given circle with center Z and isosceles $\triangle XYZ$. $m\angle Z = 100$. Find $m\angle Y$.



11. Given circle O with inscribed $\triangle SLO$. $m\angle S = x + 17$ and $m\angle L = 2x - 18$. Find x .
For full credit, check your answer.



12. Writing to learn: Why do we write down the theorems that justify each step to solve a problem?