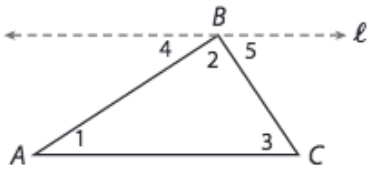
Review Sheet

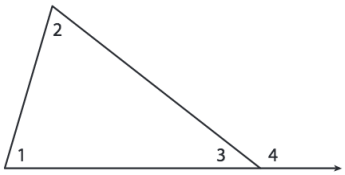
Vocabulary

Regular Polygon Interior Angle Exterior Angle
Diagonal Isosceles Triangle Equilateral Triangle

Proofs We Have Discussed



Statements	Reasons
1. Draw line ℓ through point B parallel to $\overline{AC}$.	1. Parallel Postulate
2. $m\angle 1 = m\angle$ ___4___ and $m\angle 3 = m\angle$ ___5___	2. **Alternate Interior Angles Theorem**
3. $m\angle 4 + m\angle 2 + m\angle 5 = 180°$	3. Angle Addition Postulate and definition of straight angle
4. $m\angle$ ___1___ $+ m\angle 2 + m\angle$ ___3___ $= 180°$	4. **Substitution Property of Equality**



By the **Triangle Sum Theorem**, $m\angle 1 + m\angle 2 + m\angle 3 = 180°$.

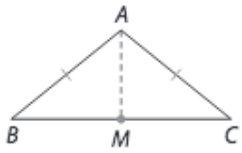
Also, $m\angle 3 + m\angle 4 =$ **180°** because they are supplementary and make a straight angle.

By the Substitution Property of Equality, then, $m\angle 1 + m\angle 2 + m\angle 3 = m\angle$ **3** $+ m\angle$ **4**.

Subtracting $m\angle 3$ from each side of this equation leaves **$m\angle 1 + m\angle 2 = m\angle 4$**.

This means that the measure of an exterior angle of a triangle is equal to the sum of the measures of the remote interior angles.

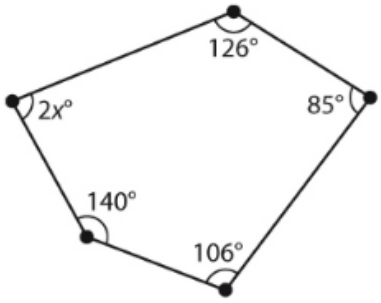
Critical Thinking Prove $\angle B \cong \angle C$, given point M is the midpoint of $\overline{BC}$.

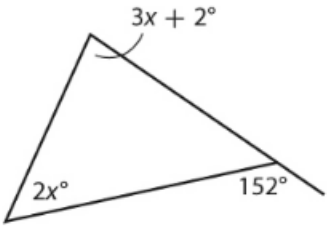


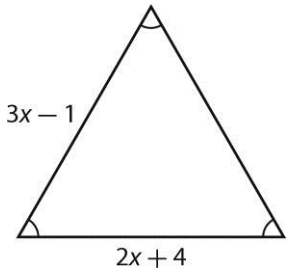
Statements	Reasons
1. M is the midpoint of $\overline{BC}$.	1. Given
2. $\overline{BM} \cong \overline{CM}$	2. Definition of midpoint
3. $\overline{AB} \cong \overline{AC}$	3. Given
4. $\overline{AM} \cong \overline{AM}$	4. Reflexive Property of Congruence
5. $\triangle AMB \cong \triangle AMC$	5. SSS Triangle Congruence Theorem
6. $\angle B \cong \angle C$	6. CPCTC

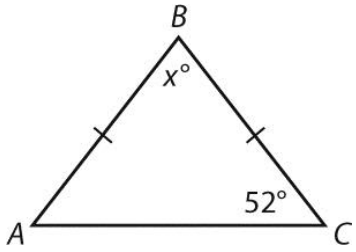
How do you find the sum of the interior angles of a polygon?

Find the value of x.

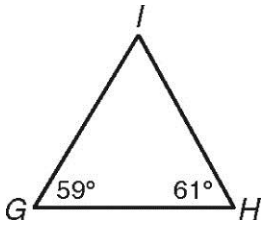




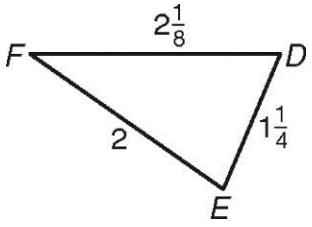




Name the sides from smallest to largest.



Name the angles in order from smallest to largest.



Can three segments with lengths 8, 15, and 6 make a triangle? Explain your answer.

A triangle has sides 3 cm and 8 cm. What are the possible side lengths of the third side?