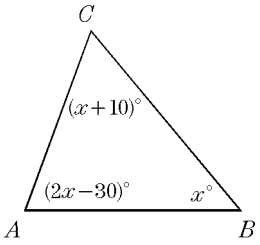
Triangle Sums **Name:** _____

14 November 2018

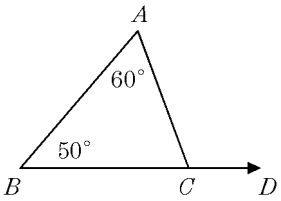
1. In the accompanying diagram, $m\angle A = 2x - 30$, $m\angle B = x$, and $m\angle C = x + 10$. Find the number of degrees in $\angle B$.



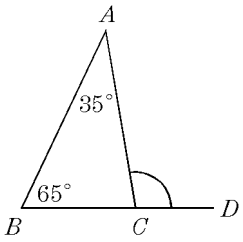
2. The measures of the angles of a triangle are represented by $4x$, $x + 40$, and $2x$. Find the value of x.

3. The measures of the angles of a triangle are represented by $(3x - 20)$, $(7x + 30)$, and $(2x + 50)$. Find x.

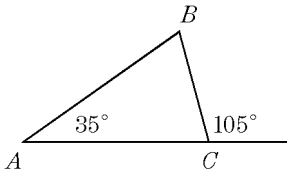
4. In the accompanying diagram, $\angle ACD$ is an exterior angle of $\triangle ABC$. If $m\angle A = 60$ and $m\angle B = 50$, find $m\angle ACD$.



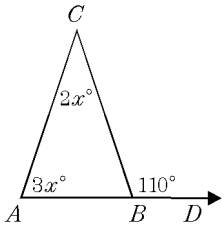
5. In the accompanying diagram, $\angle ACD$ is an exterior angle of $\triangle ABC$. If $m\angle A = 35$ and $m\angle B = 65$, find $m\angle ACD$.



6. In the accompanying diagram of $\triangle ABC$, the measure of an exterior angle at C is 105 and $m\angle A = 35$. Find $m\angle B$.



7. In the accompanying diagram, the measure of exterior angle CBD is 110°. If the measures of the two nonadjacent interior angles are represented by $3x°$ and $2x°$, find the value of x.



8. In $\triangle ABC$, $m\angle B$ is 10° larger than $m\angle A$, and $m\angle C$ is 5° less than 3 times $m\angle A$. Find $m\angle A$.