

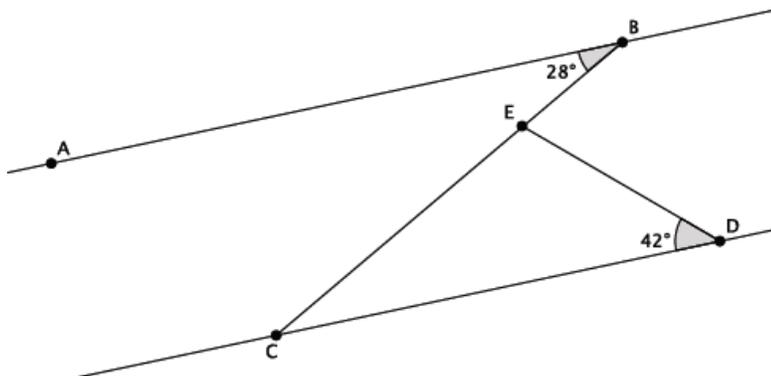
Lesson Summary

All triangles have a sum of measures of the interior angles equal to 180° .

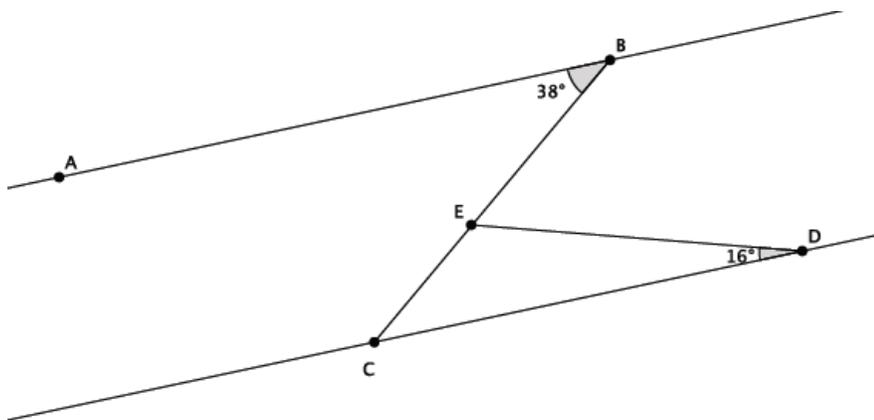
The proof that a triangle has a sum of measures of the interior angles equal to 180° is dependent upon the knowledge of straight angles and angle relationships of parallel lines cut by a transversal.

Problem Set

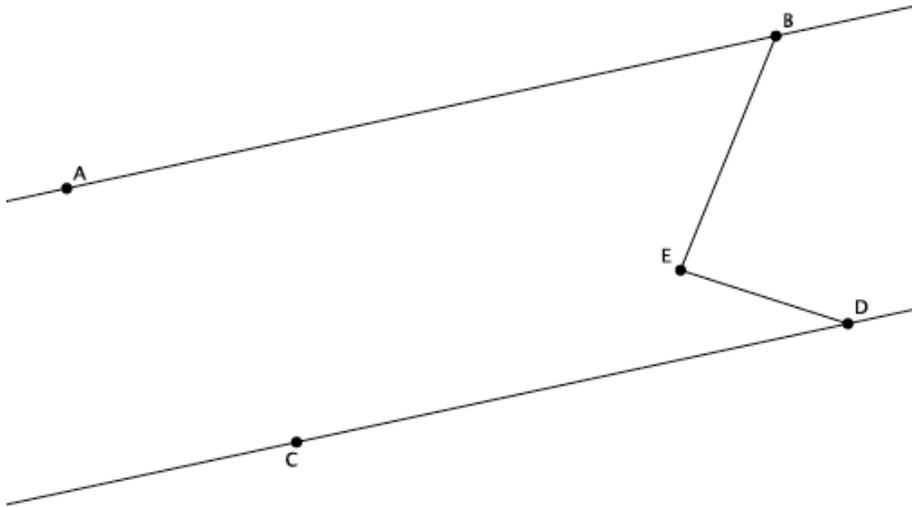
- In the diagram below, line AB is parallel to line CD , that is, $L_{AB} \parallel L_{CD}$. The measure of $\angle ABC$ is 28° , and the measure of $\angle EDC$ is 42° . Find the measure of $\angle CED$. Explain why you are correct by presenting an informal argument that uses the angle sum of a triangle.



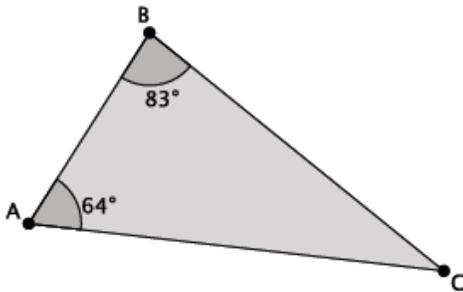
- In the diagram below, line AB is parallel to line CD , that is, $L_{AB} \parallel L_{CD}$. The measure of $\angle ABE$ is 38° , and the measure of $\angle EDC$ is 16° . Find the measure of $\angle BED$. Explain why you are correct by presenting an informal argument that uses the angle sum of a triangle. (Hint: Find the measure of $\angle CED$ first, and then use that measure to find the measure of $\angle BED$.)



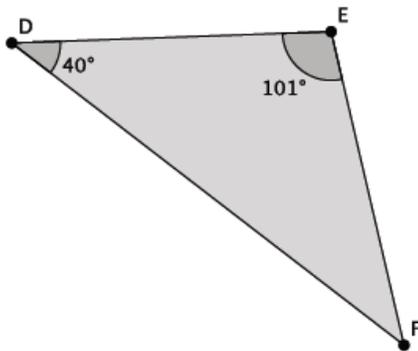
3. In the diagram below, line AB is parallel to line CD , that is, $L_{AB} \parallel L_{CD}$. The measure of $\angle ABE$ is 56° , and the measure of $\angle EDC$ is 22° . Find the measure of $\angle BED$. Explain why you are correct by presenting an informal argument that uses the angle sum of a triangle. (Hint: Extend the segment BE so that it intersects line CD .)



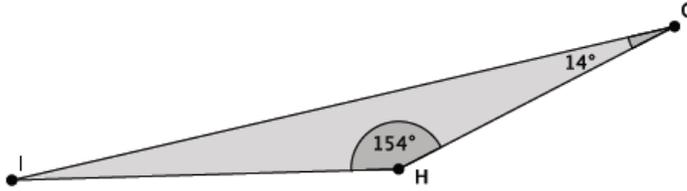
4. What is the measure of $\angle ACB$?



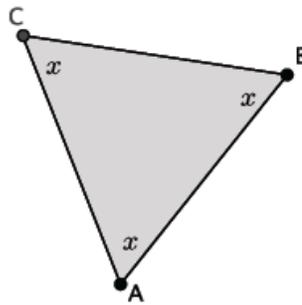
5. What is the measure of $\angle EFD$?



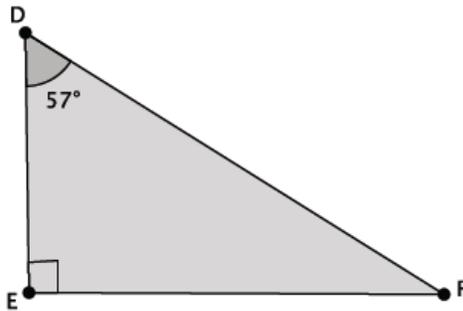
6. What is the measure of $\angle HIG$?



7. What is the measure of $\angle ABC$?



8. Triangle DEF is a right triangle. What is the measure of $\angle EFD$?



9. In the diagram below, Lines L_1 and L_2 are parallel. Transversals r and s intersect both lines at the points shown below. Determine the measure of $\angle JMK$. Explain how you know you are correct.

