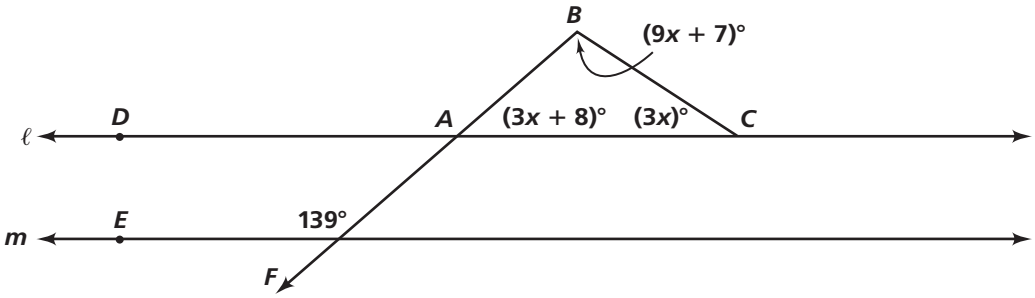
Name _____ Class _____ Date _____

Enrichment 3-2

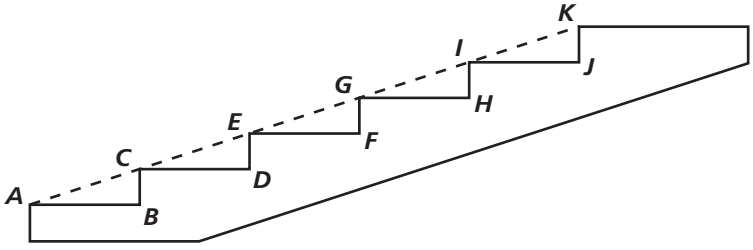
Parallel Lines and Triangles

Use the diagrams to complete the exercises.



1. Given that the sum of the measures of the angles in a triangle is 180°, solve for x.
2. Find $m\angle ABC$.
3. Find $m\angle BCA$.
4. Find $m\angle CAB$.
5. Explain why $l \parallel m$.

A carpenter builds a stairway by cutting triangles like $\triangle ABC$ and $\triangle CDE$ from a piece of lumber as shown below.



6. $\angle DCE$ and $\angle FEG$ are corresponding angles relative to what pair of parallel segments and what transversal?
7. Name another set of corresponding angles and their related parallel segments and transversal.
8. Refer to the diagram at the right. Write a paragraph proof.

   Given: $m\angle A = 43, m\angle D = 76, m\angle C = 61$

   Prove: $\overline{DE} \parallel \overline{BC}$