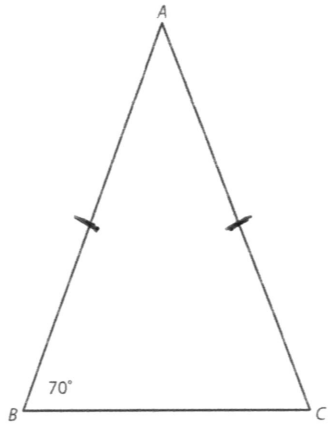
Practice 4.7: Proving Theorems About Isosceles Triangles

B

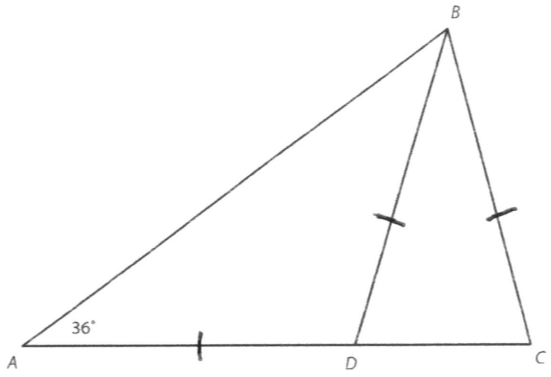
Use what you know about isosceles triangles to find each angle measure.

mark and label the congruent angles.

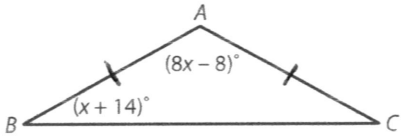
1. $m\angle A$ and $m\angle C$



2. $m\angle ADB$, $m\angle DCB$, and $m\angle DBC$



3. $m\angle A$, $m\angle B$, and $m\angle C$



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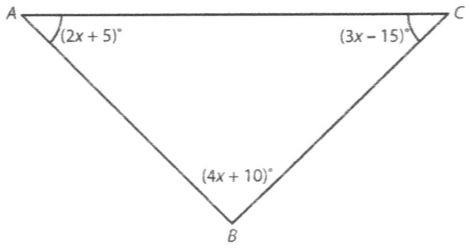
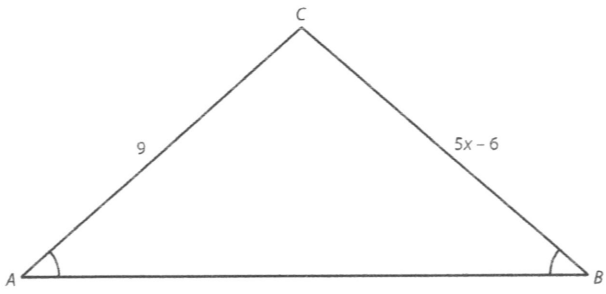
4. $m\angle A$, $m\angle B$, and $m\angle C$

Mark and label the congruent angles.

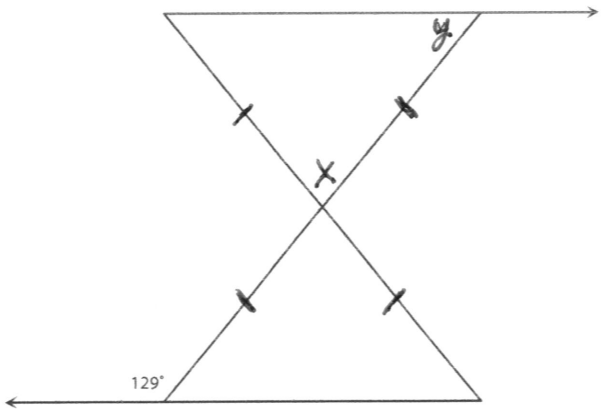


Find each value using the given information.

5. x



6. $m\angle x$ and $m\angle y$



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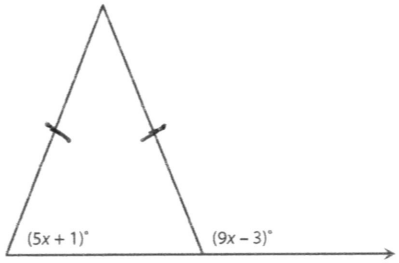
7. x

Mark and label the congruent angles.



For problems 8 and 9, use the given vertices to determine whether $\triangle ABC$ is an isosceles triangle. If it is isosceles, name a pair of congruent angles.

8. A (–3, –4), B (–3, 2), C (4, –4)

9. A (5, 0), B (–3, 0), C (1, 3)

Complete the following paragraph proof.

10. Given that $\triangle ABC$ is equiangular, prove $\triangle ABC$ is equilateral.