

Practice

Form K

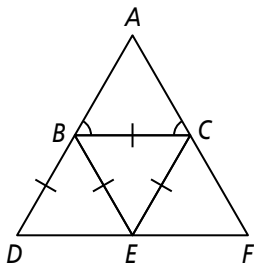
Isosceles and Equilateral Triangles

Complete each statement. Explain why it is true.

1. $\overline{AB} \cong$?

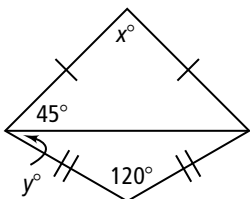
2. $\angle BDE \cong$?

3. $\angle CBE \cong$? $\cong \angle BCE$



Algebra Find the values of x and y .

4.

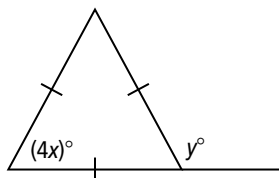


To start, determine what types of triangles are shown in the diagram. Then use an equation to find x .

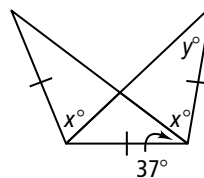
Because two sides are marked congruent in both triangles, the triangles are both ? .

$$45 + \square + x = \square$$

5.

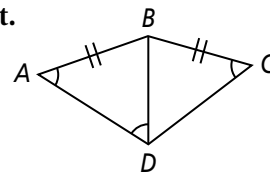


6.



Use the properties of isosceles triangles to complete each statement.

7. If $m\angle ADB = 54$, then $m\angle CBD =$? .



8. If $AB = 8$, then $BD =$? .

9. You are asked to put a V-shaped roof on a house. The slope of the roof is 40° . What is the measure of the angle needed at the vertex of the roof?

10. **Reasoning** The measure of one angle of a triangle is 30 . Of the two remaining angles, the larger angle is four times the size of the smaller angle. Is the triangle isosceles? Explain.

Practice (continued)

Form K

Isosceles and Equilateral Triangles

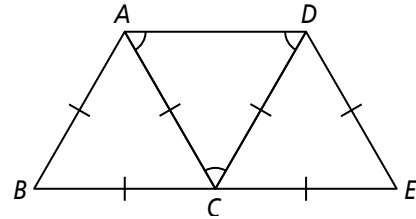
For Exercises 11 and 12, use the diagram to complete each congruence statement. Then list the theorem or corollary that proves the statement. The first one has been done for you.

$\angle B \cong \underline{\quad ? \quad}$

Answer: $\angle BAC$ (or $\angle ACB$); Corollary to Theorem 4-3

11. $\overline{AD} \cong \underline{\quad ? \quad}$

12. $\angle E \cong \underline{\quad ? \quad}$

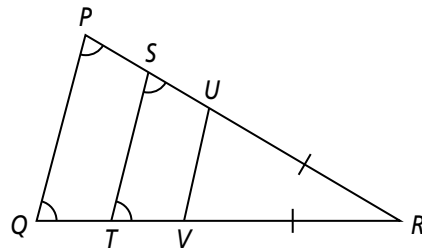


For Exercises 13–15, use the diagram to complete each congruence statement. Then list the theorem or corollary that proves the statement.

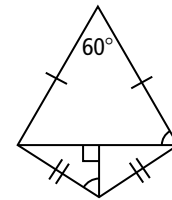
13. $\overline{PR} \cong \underline{\quad ? \quad}$

14. $\angle RUV \cong \underline{\quad ? \quad}$

15. $\overline{SR} \cong \underline{\quad ? \quad}$



16. **Reasoning** An equilateral triangle and an isosceles triangle share a common side as shown at the right. What is the measure of the vertex angle? Explain.



Algebra Find the values of m and n .

