

Practice

Form G

Isosceles and Equilateral Triangles

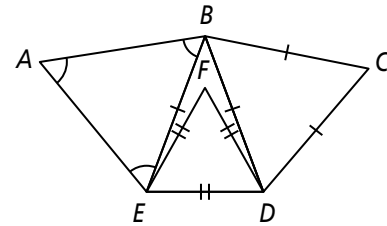
Complete each statement. Explain why it is true.

1. $\angle DBC \cong \underline{\quad} \cong \angle CDB$

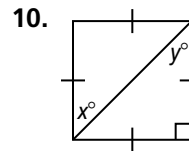
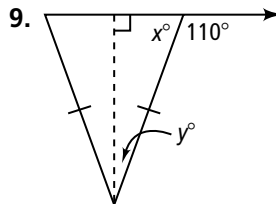
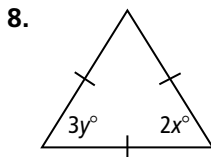
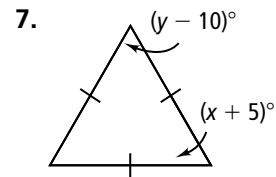
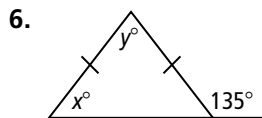
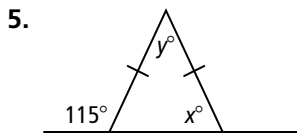
2. $\angle BED \cong \underline{\quad} \cong \angle FDE$

3. $\angle FED \cong \underline{\quad} \cong \angle DFE$

4. $\overline{AB} \cong \underline{\quad} \cong \overline{BE}$

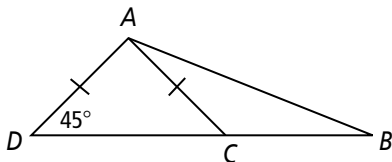


Algebra Find the values of x and y .

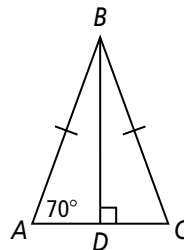


Use the properties of isosceles and equilateral triangles to find the measure of the indicated angle.

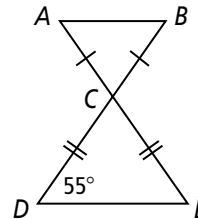
11. $m\angle ACB$



12. $m\angle DBC$



13. $m\angle ABC$



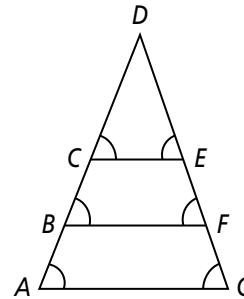
14. Equilateral $\triangle ABC$ and isosceles $\triangle DBC$ share side BC . If $m\angle BDC = 34$ and $BD = BC$, what is the measure of $\angle ABD$? (*Hint*: it may help to draw the figure described.)

Practice (continued)

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Isosceles and Equilateral Triangles

Use the diagram for Exercises 15–17 to complete each congruence statement. Explain why it is true.



15. $\overline{DF} \cong$?

16. $\overline{DG} \cong$?

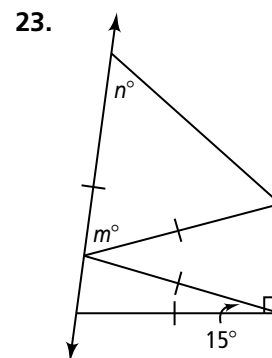
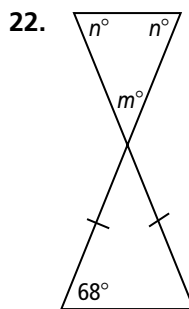
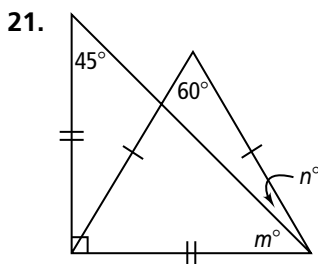
17. $\overline{DC} \cong$?

18. The wall at the front entrance to the Rock and Roll Hall of Fame and Museum in Cleveland, Ohio, is an isosceles triangle. The triangle has a vertex angle of 102. What is the measure of the base angles?

19. **Reasoning** An exterior angle of an isosceles triangle has the measure 130. Find two possible sets of measures for the angles of the triangle.

20. **Open-Ended** Draw a design that uses three equilateral triangles and two isosceles triangles. Label the vertices. List all the congruent sides and angles.

Algebra Find the values of m and n .



24. **Writing** Explain how a corollary is related to a theorem. Use examples from this lesson in making your comparison.