LESSON 5.2

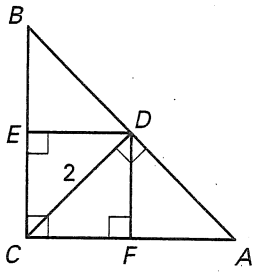
NAME _____ DATE _____

Practice B

For use with pages 272–278

Use the diagram shown. *D* is the circumcenter of $\triangle ABC$.

1. Find the length of $\overline{DA}$.
2. Find the length of $\overline{AB}$.
3. Explain why $\triangle ADF \cong \triangle BDE$.

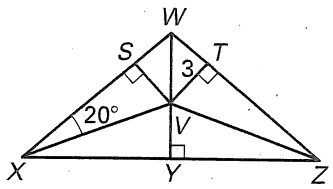


$DC = 2$

$\overline{AC} \cong \overline{BC}$

Use the diagram shown. *V* is the incenter of $\triangle XWZ$.

4. Find the length of $\overline{VS}$.
5. Find the $m\angle VZX$.
6. Explain why $\triangle XSV \cong \triangle ZTV$.



$VT = 3$

$\overline{XW} \cong \overline{WZ}$

$m\angle WXV = 20°$

Complete the constructions described.

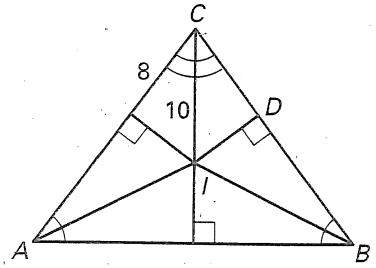
7. Draw a large acute scalene triangle $\triangle ABC$. Construct the perpendicular bisector of each side. Label the circumcenter D. Measure $\overline{DA}$, $\overline{DB}$, and $\overline{DC}$.
8. Draw a large obtuse scalene triangle $\triangle ABC$. Construct the bisector of each angle. Label the incenter D. Measure the perpendicular distance from point D to each side of the triangle.

Complete the following sentences with *always, sometimes,* or *never.*

9. The perpendicular bisector of a triangle is __?__ the same segment as the angle bisector.
10. The angle bisectors of a scalene triangle __?__ intersect at a single point.
11. The angle bisectors of a right triangle __?__ intersect inside the triangle.
12. The perpendicular bisectors of a right triangle __?__ intersect inside the triangle.

Find the indicated measure in each exercise.

13. Find ID.



14. Find BD.