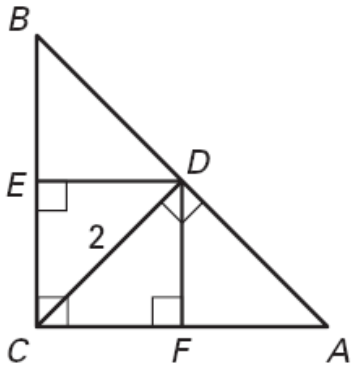
Name: _____

Perpendicular and Bisectors of a Triangle

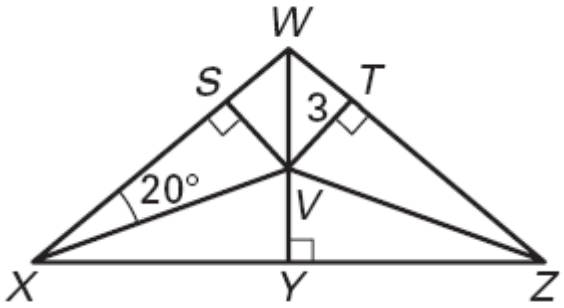
Exercise 1: D is the circumcenter of △ ABC, DC=2 and $\overline{AC} \cong \overline{BC}$.

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



Exercise 2: V is the incenter of △ XWZ, VT=3, $m\angle WXV = 20^0$ and $\overline{XW} \cong \overline{WZ}$.

1) Find the length of $\overline{VS}$
2) Find $m\angle VZX$
3) Explain why $\triangle XSV \cong \triangle ZTV$



Exercise 3: **Complete the following sentences with *always*, *sometimes*, or *never*.**

1) The perpendicular bisector of a triangle is the same segment as the angle bisector.
2) The angle bisectors of a scalene triangle intersect at a single point.
3) The angle bisectors of a right triangle intersect inside the triangle.
4) The perpendicular bisectors of a right triangle intersect inside the triangle.