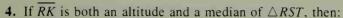
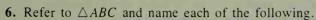
## Classroom Exercises

## Complete.

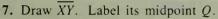
- 1. If K is the midpoint of  $\overline{ST}$ , then  $\overline{RK}$  is called  $a(n) \stackrel{?}{\longrightarrow} of \triangle RST$ .
- 2. If  $\overline{RK} \perp \overline{ST}$ , then  $\overline{RK}$  is called a(n)  $\stackrel{?}{=}$  of  $\triangle RST$ .
- 3. If K is the midpoint of  $\overline{ST}$  and  $\overline{RK} \perp \overline{ST}$ , then  $\overline{RK}$  is called a(n)? of  $\overline{ST}$



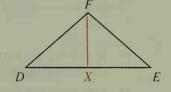
- **a.**  $\triangle RSK \cong \triangle RTK$  by ? **b.**  $\triangle RST$  is a(n) ? triangle.
- 5. If R is on the perpendicular bisector of  $\overline{ST}$ , then R is equidistant from  $\frac{?}{}$  and  $\frac{?}{}$ . Thus  $\frac{?}{}$  =  $\frac{?}{}$ .



- **a.** a median of  $\triangle ABC$
- **b.** an altitude of  $\triangle ABC$
- c. a bisector of an angle of  $\triangle ABC$



- **a.** Select a point P equidistant from X and Y. Draw  $\overline{PX}$ ,  $\overline{PY}$ , and  $\overline{PO}$ .
- **b.** What postulate justifies the statement  $\triangle POX \cong \triangle POY$ ?
- c. What reason justifies the statement  $\angle PQX \cong \angle PQY$ ?
- **d.** What reason justifies the statement  $\overrightarrow{PO} \perp \overrightarrow{XY}$ ?
- e. What name for  $\overrightarrow{PQ}$  best describes the relationship between  $\overrightarrow{PQ}$  and  $\overrightarrow{XY}$ ?
- **8.** Given:  $\triangle DEF$  is isosceles with DF = EF:  $\overline{FX}$  bisects  $\angle DFE$ .
  - **a.** Would the median drawn from F to  $\overline{DE}$  be the same segment as  $\overline{FX}$ ?
  - **b.** Would the altitude drawn from F to  $\overline{DE}$  be the same segment as FX?



R

- 9. What kind of triangle has three angle bisectors that are also altitudes and medians?
- 10. Given: NO bisects  $\angle N$ .

What can you conclude from each of the following additional statements?

- a. P lies on NO.
- **b.** The distance from a point Q to each side of  $\angle N$  is 13.
- 11. Plane M is the perpendicular bisecting plane of AB at O (that is, M is the plane that is perpendicular to AB at its midpoint, O). Points C and D also lie in plane M. List three pairs of congruent triangles and tell which congruence method can be used to prove each pair congruent.

