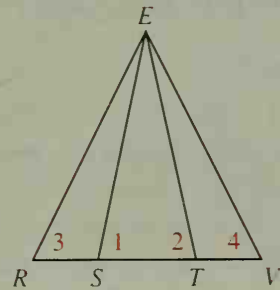


## Complete.

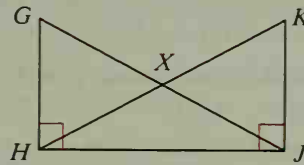
11. If  $\angle 3 \cong \angle 4$ , then which segments must be congruent?
12. If  $\triangle REV$  is an equiangular triangle, then  $\triangle REV$  is also a(n)  $\underline{\hspace{1cm}}$  triangle.
13. If  $\overline{ES} \cong \overline{ET}$ ,  $m\angle 1 = 75$ , and  $m\angle 2 = 3x$ , then  $x = \underline{\hspace{1cm}}$ .
14. If  $\angle 1 \cong \angle 2$ ,  $ES = 3y + 5$ , and  $ET = 25 - y$ , then  $y = \underline{\hspace{1cm}}$ .



4-4

## Write proofs in two-column form.

15. Given:  $\overline{GH} \perp \overline{HJ}$ ;  $\overline{KJ} \perp \overline{HJ}$ ;  
 $\angle G \cong \angle K$   
 Prove:  $\triangle GHJ \cong \triangle KJH$
16. Given:  $\overline{GH} \perp \overline{HJ}$ ;  $\overline{KJ} \perp \overline{HJ}$ ;  
 $\overline{GJ} \cong \overline{KH}$   
 Prove:  $\overline{GH} \cong \overline{KJ}$



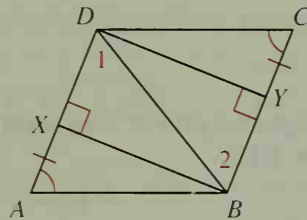
4-5

17. Give the reason for each key step of the proof.

Given:  $\overline{AX} \cong \overline{CY}$ ;  $\angle A \cong \angle C$ ;  
 $\overline{BX} \perp \overline{AD}$ ;  $\overline{DY} \perp \overline{BC}$

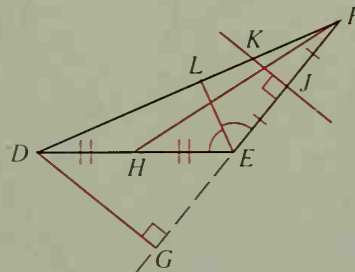
Prove:  $\overline{AD} \parallel \overline{BC}$

1.  $\triangle ABX \cong \triangle CDY$
2.  $\overline{BX} \cong \overline{DY}$
3.  $\triangle BDX \cong \triangle DBY$
4.  $\angle 1 \cong \angle 2$
5.  $\overline{AD} \parallel \overline{BC}$



4-6

18. Refer to  $\triangle DEF$  and name each of the following:
  - a. an altitude
  - b. a median
  - c. the perpendicular bisector of a side of the triangle



4-7

19. Point  $G$  lies on the perpendicular bisector of  $\overline{EF}$ . Write the theorem that justifies the statement that  $GE = GF$ .
20.  $\triangle ABC$  and  $\triangle ABD$  are congruent right triangles with common hypotenuse  $\overline{AB}$ . Write the theorem that allows you to conclude that point  $B$  lies on the bisector of  $\angle DAC$ .