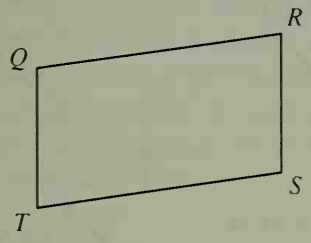
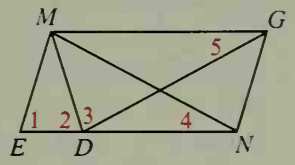
Write proofs in two-column form.

14. Given: $\angle R \cong \angle T$; $\overline{RS} \parallel \overline{QT}$
Prove: $\overline{RS} \cong \overline{TQ}$
(*Hint*: What auxiliary line can you draw to form congruent triangles?)



15. Given: $\angle 1 \cong \angle 2 \cong \angle 3$; $\overline{EN} \cong \overline{DG}$
Prove: $\angle 4 \cong \angle 5$



For Exercises 16–19 draw and label a diagram. List, in terms of the diagram, what is given and what is to be proved. Then write a two-column proof.

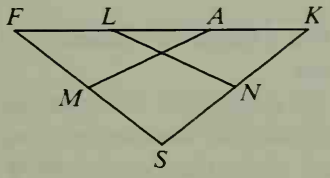
16. In two congruent triangles, if segments are drawn from two corresponding vertices perpendicular to the opposite sides, then those segments are congruent.

17. If segments are drawn from the endpoints of the base of an isosceles triangle perpendicular to the opposite legs, then those segments are congruent.

18. If $\angle A$ and $\angle B$ are the base angles of isosceles $\triangle ABC$, and the bisector of $\angle A$ meets $\overline{BC}$ at X and the bisector of $\angle B$ meets $\overline{AC}$ at Y, then $\overline{AX} \cong \overline{BY}$.

19. If segments are drawn from the midpoints of the legs of an isosceles triangle perpendicular to the base, then those segments are congruent.

20. Write a detailed plan for proof.
Given: $\overline{FL} \cong \overline{AK}$;
$\overline{SF} \cong \overline{SK}$;
M is the midpoint of $\overline{SF}$;
N is the midpoint of $\overline{SK}$.
Prove: $\overline{AM} \cong \overline{LN}$



Write proofs in two-column form. Use the facts that the sides of a square are all congruent and that the angles of a square are all right angles.

C **21.** The diagram shows three squares and an equilateral triangle.
Prove: $\overline{AE} \cong \overline{FC} \cong \overline{ND}$

22. Use the results of Exercise 21 to prove that $\triangle FAN$ is equilateral.