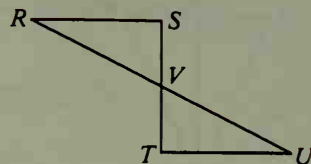


17. Supply the missing statements and reasons.

Given:  $\overline{RS} \perp \overline{ST}$ ;  $\overline{TU} \perp \overline{ST}$ ;

$V$  is the midpoint of  $\overline{ST}$ .

Prove:  $\triangle RSV \cong \triangle UTV$



**Proof:**

Statements	Reasons
1. $\overline{RS} \perp \overline{ST}$ ; $\overline{TU} \perp \overline{ST}$	1. $\underline{\hspace{1cm}}$
2. $m\angle S = 90$ ; $m\angle \underline{\hspace{1cm}} = 90$	2. $\underline{\hspace{1cm}}$
3. $\angle S \cong \angle T$	3. $\underline{\hspace{1cm}}$
4. $V$ is the midpoint of $\overline{ST}$ .	4. $\underline{\hspace{1cm}}$
5. $\overline{SV} \cong \underline{\hspace{1cm}}$	5. $\underline{\hspace{1cm}}$
6. $\angle RVS \cong \angle \underline{\hspace{1cm}}$	6. $\underline{\hspace{1cm}}$
7. $\triangle \underline{\hspace{1cm}} \cong \triangle \underline{\hspace{1cm}}$	7. $\underline{\hspace{1cm}}$

Write proofs in two-column form.

**B** 18. Given:  $\overline{TM} \cong \overline{PR}$ ;  $\overline{TM} \parallel \overline{RP}$

Prove:  $\triangle TEM \cong \triangle PER$

19. Given:  $E$  is the midpoint of  $\overline{TP}$ ;

$E$  is the midpoint of  $\overline{MR}$ .

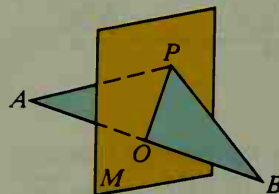
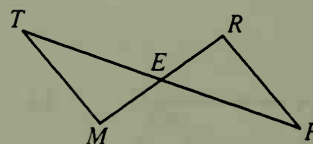
Prove:  $\triangle TEM \cong \triangle PER$

20. Given: Plane  $M$  bisects  $\overline{AB}$ ;  $\overline{PA} \cong \overline{PB}$

Prove:  $\triangle POA \cong \triangle POB$

21. Given: Plane  $M$  bisects  $\overline{AB}$ ;  $\overline{PO} \perp \overline{AB}$

Prove:  $\triangle POA \cong \triangle POB$



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.



22. In an isosceles triangle, if the angle between the congruent sides is bisected, then two congruent triangles are formed.
23. In an isosceles triangle, if a segment is drawn from the vertex of the angle between the congruent sides to the midpoint of the opposite side, then congruent triangles are formed.
24. If a line perpendicular to  $\overline{AB}$  passes through the midpoint of  $\overline{AB}$ , and segments are drawn from any other point on that line to  $A$  and  $B$ , then two congruent triangles are formed.
25. If pentagon  $ABCDE$  is equilateral and has right angles at  $B$  and  $E$ , then diagonals  $\overline{AC}$  and  $\overline{AD}$  form congruent triangles.