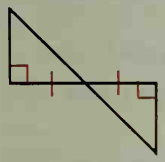
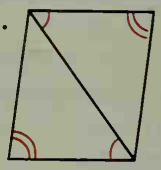
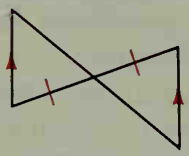
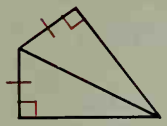
Chapter 4

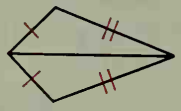
In Exercises 1–8 write a method (SSS, SAS, ASA, AAS, or HL) that can be used to prove the two triangles congruent.

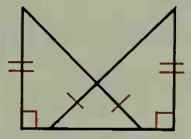
1. 

2. 

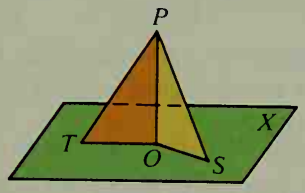
3. 

4. 

5. 

6. 

7. Given: $\overline{PO} \perp$ plane X; $OT = OS$
8. Given: $\overline{PO} \perp$ plane X; $PT = PS$



Exs. 7, 8

Indicate the best answer by writing the appropriate letter.

9. In $\triangle RXT$, $\angle R \cong \angle T$, $RT = 2x + 5$, $RX = 5x - 7$, and $TX = 2x + 8$. What is the perimeter of $\triangle RXT$?
   a. 5 **b.** 15 **c.** 18 **d.** 51

10. If $\triangle DEF \cong \triangle PRS$, which of these congruences *must* be true?
    a. $\overline{DF} \cong \overline{PS}$ **b.** $\overline{EF} \cong \overline{PR}$ **c.** $\angle E \cong \angle S$ **d.** $\angle F \cong \angle R$

11. In $\triangle ABC$, $AB = AC$, $m\angle A = 46$, and $\overline{BD}$ is an altitude. What is the measure of $\angle CBD$?
    a. 23 **b.** 44 **c.** 67 **d.** 134

12. An equiangular triangle *cannot* be which of the following?
    a. equilateral **b.** isosceles **c.** scalene **d.** acute

13. Point X is equidistant from vertices T and N of scalene $\triangle TEN$. Point X *must* lie on which of the following?
    a. bisector of $\angle E$ **b.** perpendicular bisector of $\overline{TN}$
    c. median to $\overline{TN}$ **d.** the altitude to $\overline{TN}$

14. Given: $\overline{AB} \parallel \overline{DC}$; $\overline{AB} \cong \overline{CD}$; $\angle 1 \cong \angle 2$
    To prove that $\overline{DE} \cong \overline{BF}$, what would you prove first?
    a. $\triangle ADE \cong \triangle CBF$ **b.** $\triangle ABF \cong \triangle CDE$
    c. $\triangle ABC \cong \triangle CDA$ **d.** cannot be proved