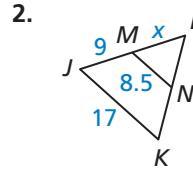
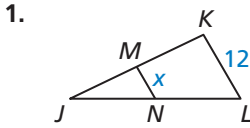


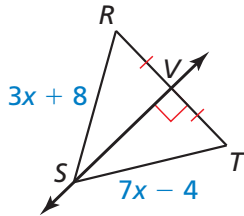
# 6 Chapter Test

In Exercises 1 and 2,  $\overline{MN}$  is a midsegment of  $\triangle JKL$ . Find the value of  $x$ .

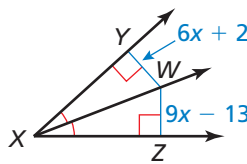


Find the indicated measure. Identify the theorem you use.

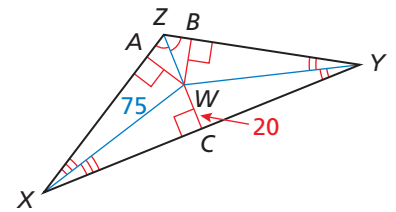
3.  $ST$



4.  $WY$

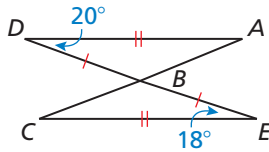


5.  $BW$

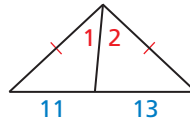


Copy and complete the statement with  $<$ ,  $>$ , or  $=$ .

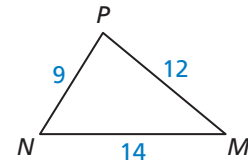
6.  $AB$   $\underline{\hspace{1cm}}$   $CB$



7.  $m\angle 1$   $\underline{\hspace{1cm}}$   $m\angle 2$



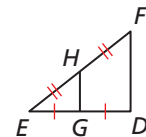
8.  $m\angle MNP$   $\underline{\hspace{1cm}}$   $m\angle NPM$



9. Find the coordinates of the circumcenter, orthocenter, and centroid of the triangle with vertices  $A(0, -2)$ ,  $B(4, -2)$ , and  $C(0, 6)$ .

10. Write an indirect proof of the Corollary to the Base Angles Theorem (Corollary 5.2): If  $\triangle PQR$  is equilateral, then it is equiangular.

11.  $\triangle DEF$  is a right triangle with area  $A$ . Use the area for  $\triangle DEF$  to write an expression for the area of  $\triangle GEH$ . Justify your answer.



12. Two hikers start at a visitor center. The first hikes 4 miles due west, then turns  $40^\circ$  toward south and hikes 1.8 miles. The second hikes 4 miles due east, then turns  $52^\circ$  toward north and hikes 1.8 miles. Which hiker is farther from the visitor center? Explain how you know.



In Exercises 13–15, use the map.

13. Describe the possible lengths of Pine Avenue.

14. You ride your bike along a trail that represents the shortest distance from the beach to Main Street. You end up exactly halfway between your house and the movie theater. How long is Pine Avenue? Explain.

15. A market is the same distance from your house, the movie theater, and the beach. Copy the map and locate the market.