

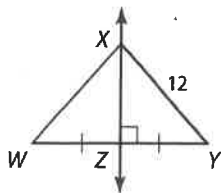
Check Your Understanding

Step-by-Step Solutions begin on page R14.

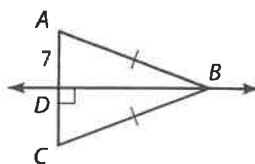


Example 1 Find each measure.

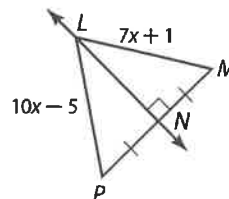
1. XW



2. AC

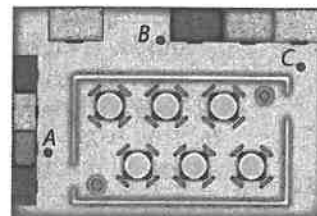


3. LP



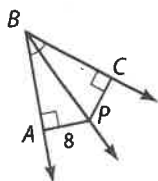
Example 2

4. **ADVERTISING** Four friends are passing out flyers at a mall food court. Three of them take as many flyers as they can and position themselves as shown. The fourth one keeps the supply of additional flyers. Copy the positions of points A , B , and C . Then position the fourth friend at D so that she is the same distance from each of the other three friends.

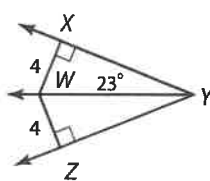


Example 3 Find each measure.

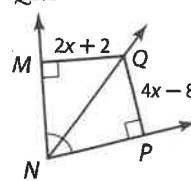
5. CP



6. $m\angle WYZ$

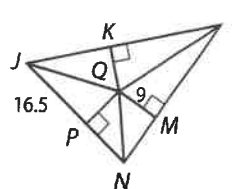


7. QM



Example 4

8. **CCSS SENSE-MAKING** Find JQ if Q is the incenter of $\triangle JLN$.

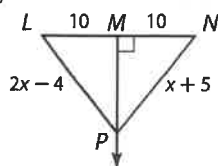


Practice and Problem Solving

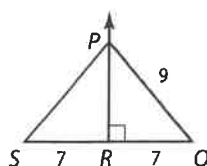
Extra Practice is on page R5.

Example 1 Find each measure.

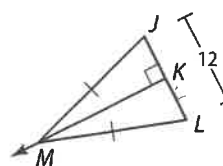
9. NP



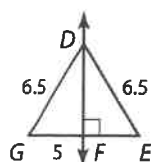
10. PS



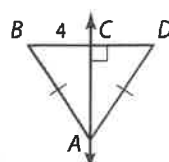
11. KL



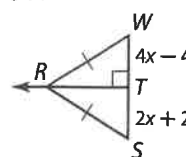
12. EG



13. CD

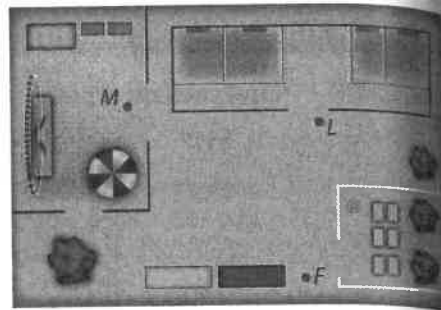


14. SW

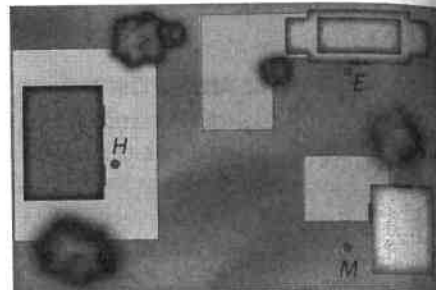


Example 2

- 15. STATE FAIR** The state fair has set up the location of the midway, livestock competition, and food vendors. The fair planners decide that they want to locate the portable restrooms the same distance from each location. Copy the positions of points M , L , and F . Then find the location for the restrooms and label it R .

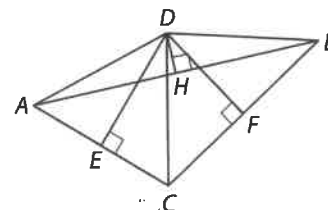


- 16. SCHOOL** A school system has built an elementary, middle, and high school at the locations shown in the diagram. Copy the positions of points E , M , and H . Then find the location for the bus yard B that will service these schools so that it is the same distance from each school.



Point D is the circumcenter of $\triangle ABC$. List any segment(s) congruent to each segment.

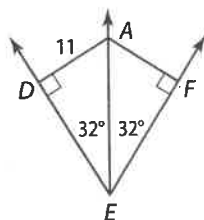
17. \overline{AD} 18. \overline{BF}
 19. \overline{AH} 20. \overline{DC}



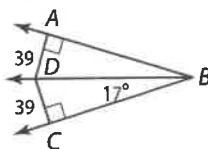
Example 3

Find each measure.

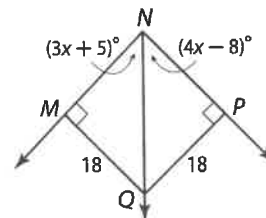
21. AF



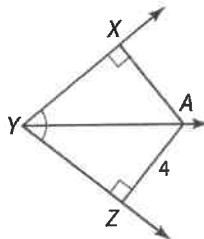
22. $m\angle DBA$



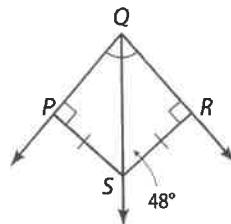
23. $m\angle PNM$



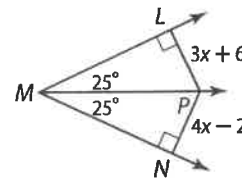
24. XA



25. $m\angle PQS$



26. PN



Example 4

CCSS SENSE-MAKING Point P is the incenter of $\triangle AEC$. Find each measure below.

27. PB
 28. DE
 29. $m\angle DAC$
 30. $m\angle DEP$

