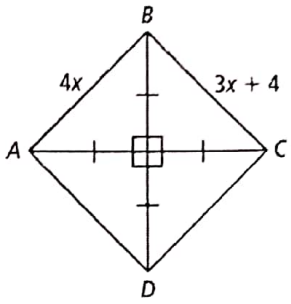
Name _____ Class _____ Date _____

Angle and Perpendicular Bisectors

Use the figure at the right for Exercises 1–3.



1. What is the value of x?

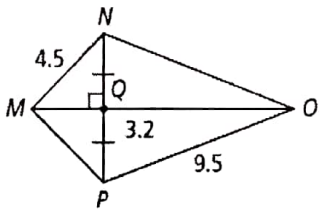
To start, determine the relationship between $\overline{AC}$ and $\overline{BD}$. Then write an equation to show the relationships of the sides. $\overline{BD}$ is the _?_ bisector of $\overline{AC}$. Therefore, point B is equidistant from points A and ☐.

$4x =$ _?_

2. Find AB.

3. Find BC.

Use the figure at the right for Exercises 4–7.



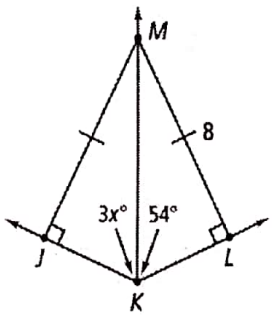
4. $\overline{MO}$ is the perpendicular bisector of ☐.

5 Find MP.

6 Find NO.

7 Find NP.

Use the figure at the right for Exercises 8–13.



8. How far is M from $\overline{KL}$?

9. How far is M from $\overline{JK}$?

10. How is $\overline{KM}$ related to $\angle JKL$?

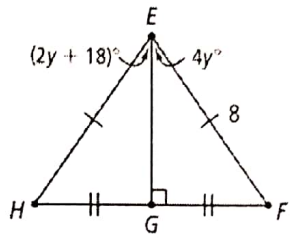
11 Find the value of x.

12 Find $m\angle MKL$.

13 Find $m\angle JMK$ and $m\angle LMK$.

Name _____ Class _____ Date _____

Use the figure at the right for Exercises 14–16.



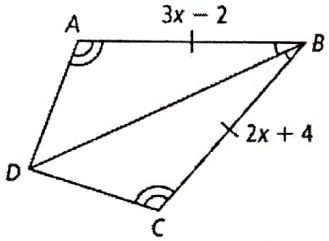
14. What are the lengths of *HG and GF?*

15. Find the value of *y*.

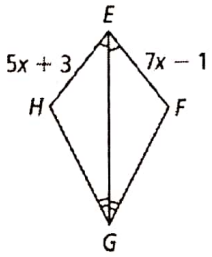
16. Find $m\angle GEH$ and $m\angle GEF$.

Algebra Find the indicated values of the variables and measures.

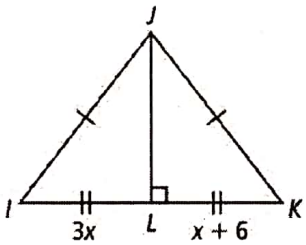
17. *x, BA, BC*



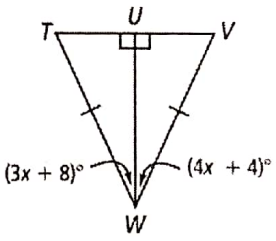
18. *x, EH, EF*



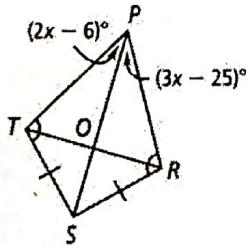
19. *x, IK*



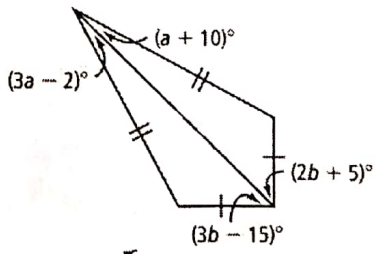
20. *x*, $m\angle UWV$, $m\angle UWT$



21. *x*, $m\angle TPS$, $m\angle RPS$



22. *a, b*



23. Writing Is *A* on the angle bisector of $\angle XYZ$? Explain.