

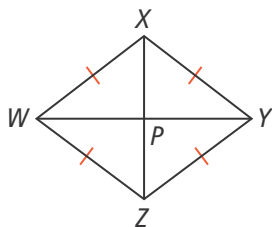


UNDERSTAND

- 13. Construct Arguments** Write a proof of Theorem 6-16.

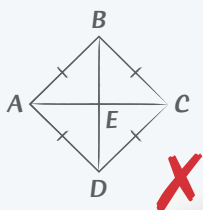
Given: $WXYZ$ is a rhombus.

Prove: $\overline{WY}$ and $\overline{XZ}$ are perpendicular bisectors of each other.

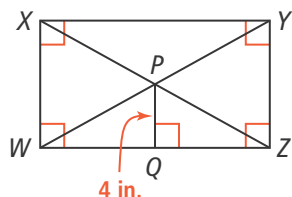


- 14. Error Analysis** Figure $ABCD$ is a rhombus. What is Malcolm's error?

Since $ABCD$ is a rhombus, $\overline{AB} \cong \overline{CD}$. Since the diagonals of a rhombus bisect each other, $\overline{AE} \cong \overline{BE} \cong \overline{CE} \cong \overline{DE}$. So, by SSS, $\triangle ABE \cong \triangle CDE$.



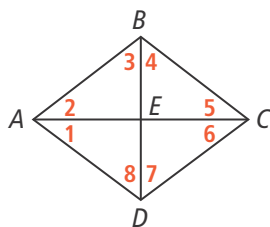
- 15. Mathematical Connections** The area of rectangle $WXYZ$ is 115.5 in.^2 . What is the perimeter of $\triangle XYZ$? Explain your work.



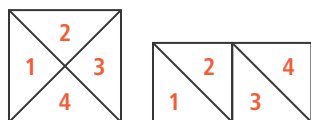
- 16. Construct Arguments** Write a proof of Theorem 6-17.

Given: $ABCD$ is a rhombus.

Prove: $\angle 1 \cong \angle 2$, $\angle 3 \cong \angle 4$, $\angle 5 \cong \angle 6$, $\angle 7 \cong \angle 8$



- 17. Higher Order Thinking** A square is cut apart and reassembled into a rectangle as shown. Which figure has a greater perimeter? Explain.



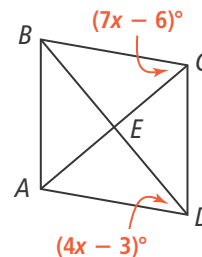
PRACTICE

For Exercises 18–20, find each angle measure for rhombus $ABCD$. SEE EXAMPLES 1 AND 2

18. $m\angle ACD$

19. $m\angle ABC$

20. $m\angle BEA$

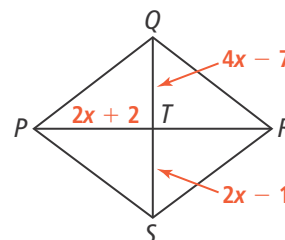


For Exercises 21–23, find each length for rhombus $PQRS$. Round to the nearest tenth. SEE EXAMPLES 1 AND 2

21. TR

22. QS

23. PS



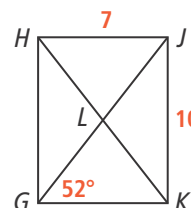
For Exercises 24–27, find each length and angle measure for rectangle $GHIJ$. Round to the nearest tenth. SEE EXAMPLES 3 AND 4

24. $m\angle GHK$

25. $m\angle HLJ$

26. GJ

27. HL

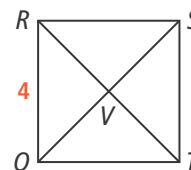


For Exercises 28–30, find each length and value for square $QRST$. Round to the nearest tenth. SEE EXAMPLE 5

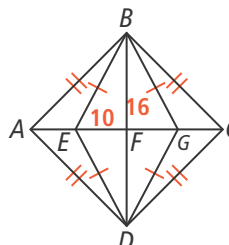
28. SV

29. RT

30. perimeter of $\triangle RVS$

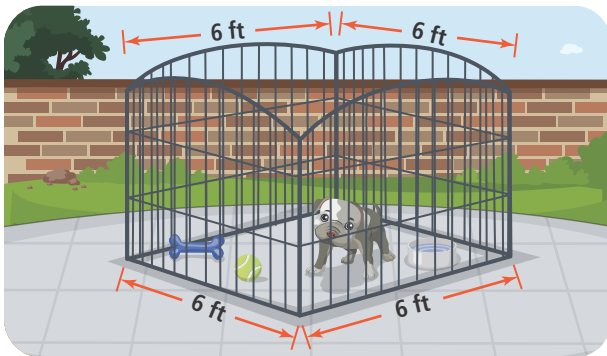


31. If $ABCD$ is a square, what is GC ?

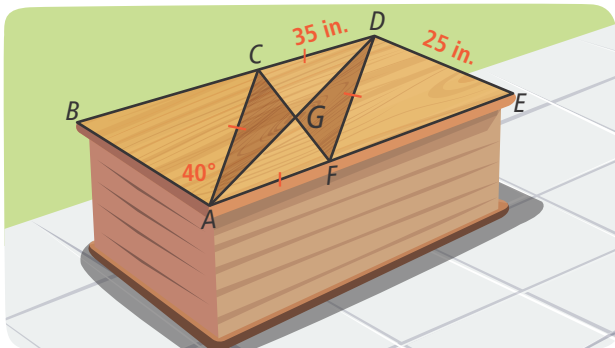


APPLY

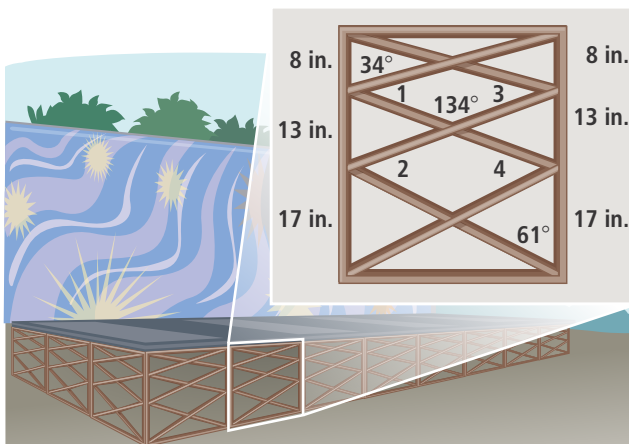
32. **Model With Mathematics** Jordan wants a collapsible puppy pen that gives his puppy at least 35 square feet of area and at least 10 feet of diagonal length. Should Jordan buy the pen shown? Explain.



33. **Make Sense and Persevere** Luis is using different types of wood to make a rectangular inlay top for a chest with the pattern shown.



- a. What angle should he cut for $\angle CDG$? Explain.
 b. If he makes the table top correctly, what will the length of the completed top be?
34. **Look for Relationships** A carpenter is building a support for a stage. What should be the measures of $\angle 1$, $\angle 2$, $\angle 3$, and $\angle 4$? Explain your answers.

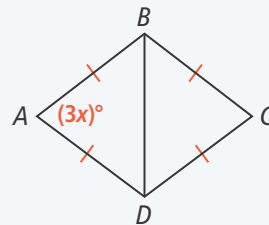


ASSESSMENT PRACTICE

35. Which statements are true about all rectangles? Select all that apply.

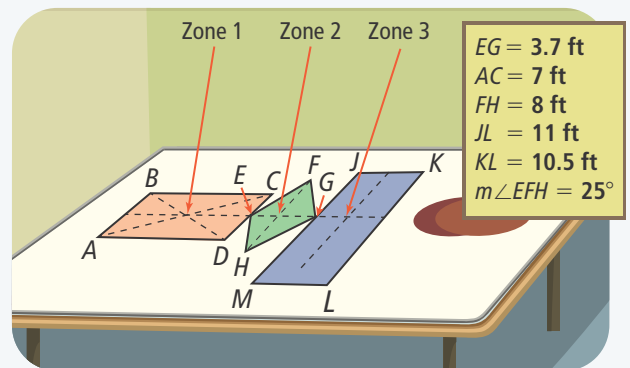
- Ⓐ Diagonals bisect each other.
 Ⓑ Adjacent sides are perpendicular.
 Ⓒ Diagonals are perpendicular.
 Ⓓ Consecutive angles are supplementary.

36. **SAT/ACT** Which expression gives $m\angle DBC$?



- Ⓐ $\left(180 - \frac{3x}{2}\right)^\circ$ Ⓒ $\left(\frac{180 - 3x}{2}\right)^\circ$
 Ⓑ $(180 - 3x)^\circ$ Ⓓ $\left(\frac{3x}{2} - 180\right)^\circ$

37. **Performance Task** At a carnival, the goal is to toss a disc into one of three zones to win a prize. Zone 1 is a square, zone 2 is a rhombus, and zone 3 is a rectangle. Some measurements have been provided.



Part A What are the lengths of the sides of each zone?

Part B What are the angle measures of each zone?

Part C What is the area of each zone?