_____ Class _____ Date

Practice 6-5

Form K

Conditions for Rhombuses, Rectangles, and Squares

Can you conclude that the parallelogram is a rhombus, a rectangle, or a square? Explain.



To start, identify the congruent figures marked in the diagram. The diagonals bisect each other.

The diagonals intersect at right angles.



- 4. A parallelogram has two pairs of adjacent sides that are congruent.
- 5. A parallelogram's diagonals form eight congruent angles at the vertices.

Algebra For what value of x is the figure the given special parallelogram?

6. rectangle



To start, write an equation for the congruent segments. _?_ = _?_

7. rhombus



9. rectangle



8. square



10. rectangle



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_____ Class _____ Date

12. rhombus

Form K

Practice (continued) Conditions for Rhombuses, Rectangles, and Squares

Algebra For what value of x is the figure the given special parallelogram?

11. rhombus





13. rectangle



15. rectangle





14. rhombus



- **17. Reasoning** Your friend draws a parallelogram with diagonals the length of x and y. Which special type of parallelograms could your friend draw if x = y? Which special type of parallelogram could your friend draw if $x \neq v$?
- 18. Error Analysis A classmate draws the figure at the right and says that it is a square because its diagonals are both perpendicular and congruent. What is your classmate's error?



(2*x* – 13)°

 $(7x - 5)^{\circ}$

19. Students are planning a courtyard garden. They want the garden to be a square. How can the students use ropes to check that the garden is square? Justify your answer and name any theorems you used.