Practice 6-4

Special Parallelograms

For each parallelogram, (a) choose the best name, and then (b) find the measures of the numbered angles.

1.

2.

3.

4.

5.

6.
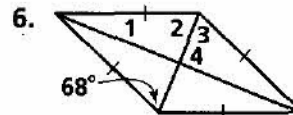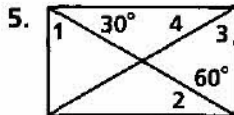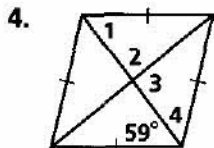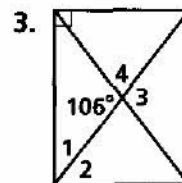
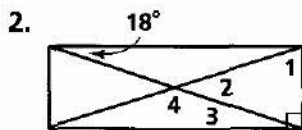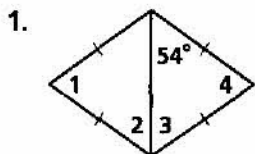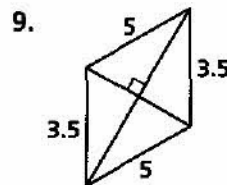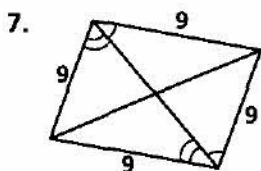The parallelograms below are not drawn to scale. Can the parallelogram have the conditions marked? If not, write *impossible*. Explain your answer.

7.

8.

9.

HIJK is a rectangle. Find the value of *x* and the length of each diagonal.
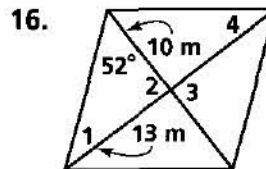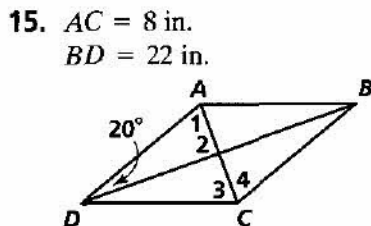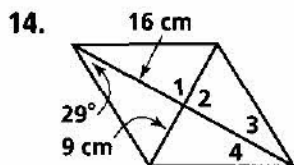
10. $HJ = x$ and $IK = 2x - 7$

11. $HJ = 3x + 5$ and $IK = 5x - 9$

12. $HJ = 3x + 7$ and $IK = 6x - 11$

13. $HJ = 19 + 2x$ and $IK = 3x + 22$

For each rhombus, (a) find the measures of the numbered angles, and then (b) find the area.

14.

15. $AC = 8$ in.
$BD = 22$ in.

16.

Determine whether the quadrilateral can be a parallelogram. If not, write *impossible*. Explain your answer.

17. One pair of opposite sides is parallel, and the other pair is congruent.

18. Opposite angles are congruent and supplementary, but the quadrilateral is not a rectangle.

Geometry Chapter 6