

► CHECK for Understanding

Logical Reasoning In Exercises 1–6, decide whether the statement is true or false.

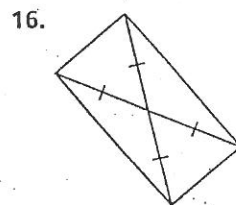
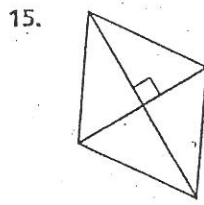
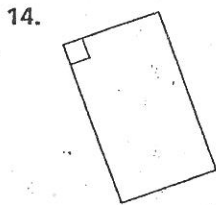
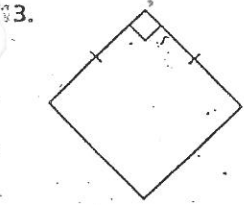
1. If a quadrilateral is a rectangle, then it is a parallelogram.
2. If a quadrilateral is a parallelogram, then it is a rhombus.
3. If a quadrilateral is a square, then it is a rhombus.
4. If a quadrilateral is a square, then it is a parallelogram.
5. If a parallelogram is a rectangle, then it is a rhombus.
6. If a rhombus is a square, then it is a rectangle.

● In Exercises 7–12, name which quadrilaterals have the property.

- | | | | |
|------------------|--------------|------------|-----------|
| a. Parallelogram | b. Rectangle | c. Rhombus | d. Square |
|------------------|--------------|------------|-----------|
7. All sides are congruent.
 8. All angles are congruent.
 9. The diagonals are congruent.
 10. Opposite angles are congruent.
 11. It is equiangular and equilateral.
 12. The diagonals are perpendicular.

Independent Practice

● In Exercises 13–16, each figure is a parallelogram. Identify the type and explain your reasoning.



● **Algebra** – In Exercises 17–19, find the length or angle measure.

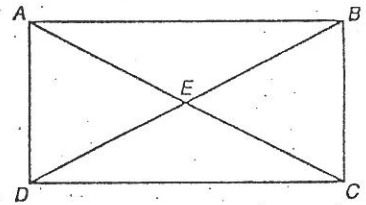
17. WXYZ is a square.
 $WX = 1 - 10x$
 $YZ = 14 + 3x$
 $XY = \boxed{?}$

18. WXYZ is a rhombus.
 $m\angle X = 24(10 - x)$
 $m\angle Z = 6(x + 15)$
 $m\angle Y = \boxed{?}$

19. WXYZ is a rectangle.
 Perimeter of $\triangle XYZ = 24$
 $XY + YZ = 5x - 1$
 $XZ = 13 - x$, $WY = \boxed{?}$

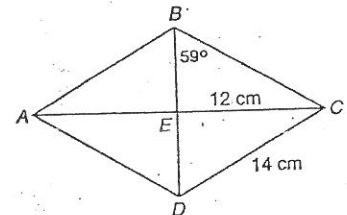
● Use rectangle ABCD and the given information to solve each problem.

20. If $AC = 4x - 60$ and $BD = 30 - x$, find BD .
21. If $m\angle BAC = 4x + 5$ and $m\angle CAD = 5x - 14$, find $m\angle CAD$.



● Use rhombus ABCD and the given information to find each measure.

22. $m\angle BCE$
23. $m\angle ABD$
24. AC



● In Exercises 25–28 use the figure at the right to find the measure of the indicated angle.

Given: BDEG is a rectangle. ABCD is a rhombus.

25. $\angle DAB$
26. $\angle BCG$
27. $\angle GCF$
28. $\angle DEG$

