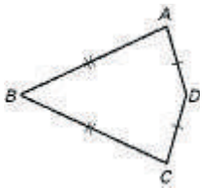
Lesson 8.6

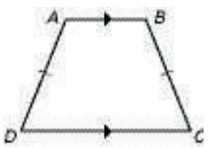
Practice Level C

1. 

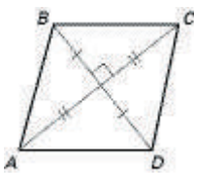
rectangle

2. 

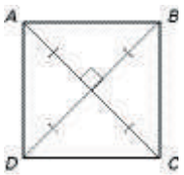
kite

3. 

isosceles trapezoid

4. 

rhombus

5. 

square

6. sometimes **7.** always **8.** always **9.** never **10.** sometimes **11.** never **12.** sometimes

13. yes; By Theorem 3.12, there is one pair of parallel sides.

14. yes; It is a parallelogram by Theorem 8.6, and the parallelogram is a rhombus by Theorem 8.11.

15. no; You must know the other two sides are also parallel.

16. parallelogram; slope $\overline{PQ}$ = slope $\overline{RS} = -\frac{1}{5}$; slope $\overline{QR}$ = slope $\overline{PS} = 1$; adjacent sides $\ncong (\sqrt{18} \neq \sqrt{26})$

17. rectangle; slope $\overline{PQ}$ = slope $\overline{RS} = -\frac{1}{4}$; slope $\overline{QR}$ = slope $\overline{PS} = 4$; adjacent sides $\perp$ and $\ncong$ $(\sqrt{17} \neq \sqrt{68})$ **18.** trapezoid; slope $\overline{PQ}$ = slope $\overline{RS}$ = undefined; slope $\overline{SP} \neq$ slope $\overline{RQ}$ $\left(\frac{2}{3} \neq -2\right)$

19. $(-5, 5.5)$, $(-8, 2)$, $(-7, -2.5)$, $(-4, 1)$; parallelogram

20. *Sample answer:* $\overline{AC} \cong \overline{BD}$; A parallelogram with $\cong$ diagonals is a rectangle.

21. *Sample answer:* $\overline{AB} \cong \overline{AD}$; Quadrilateral with two pairs of consecutive $\cong$ sides, but opposite sides $\ncong$ is a kite.

22. *Sample answer:* $\overline{AD} \cong \overline{BC}$; A trapezoid with nonparallel sides $\cong$ is isosceles.

23. rhombus; Proof: Through any 2 points there is exactly 1 line; Given; $\angle ACB \cong \angle CAB$, $\angle ACD \cong \angle CAD$; $\overline{AB} \parallel \overline{CD}$; Alternate Interior Angles Theorem; $\angle ACB \cong \angle CAD$; Reflexive Property of Congruence; $\triangle ACB \cong \triangle CAD$; Corresponding parts of $\cong \triangle$'s are $\cong$.; $\overline{AB} \cong \overline{BC} \cong \overline{CD} \cong \overline{DA}$; $ABCD$ is a rhombus.; Rhombus Corollary