

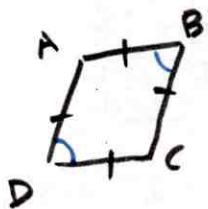
**LESSON 8.4**

**Practice**

For use with pages 533-540

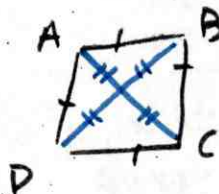
For any rhombus  $ABCD$ , decide whether the statement is *always* or *sometimes* true. Draw a diagram and explain your reasoning.

1.  $\angle ABC \cong \angle CDA$



Always,  
opp  $\angle$ s  $\cong$

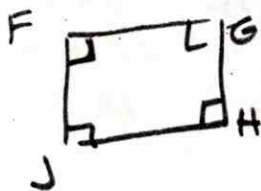
2.  $\overline{CA} \cong \overline{DB}$



Sometimes,  
when it is a  
square

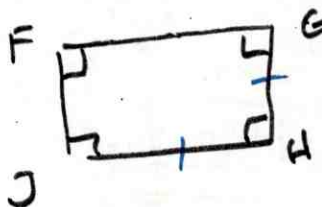
For any rectangle  $FGHJ$ , decide whether the statement is *always* or *sometimes* true. Draw a diagram and explain your reasoning.

3.  $\angle F \cong \angle H$



Always,  
opp.  $\angle$ s  $\cong$

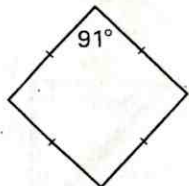
4.  $\overline{GH} \cong \overline{HJ}$



Sometimes,  
when it is a  
square

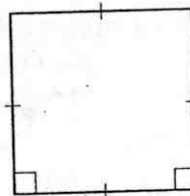
Classify the quadrilateral. Explain your reasoning.

5.



Rhombus  
4  $\cong$  sides

6.



square  
4  $\perp$ s, 4  $\cong$  sides

Name each quadrilateral—*parallelogram, rectangle, rhombus, and square*—for which the statement is true.

7. It is equilateral.

square  
rhombus

8. The diagonals are congruent.

rectangle  
square

9. It can contain obtuse angles.

rhombus  
||-gram

10. It contains no acute angles.

rectangle  
square

**LESSON 8.4 Practice** *continued*  
For use with pages 533-540

*Square*

*Rhombus*

Classify the special quadrilateral. Explain your reasoning. Then find the values of  $x$  and  $y$ .

11. 12.

Handwritten work for problem 11:

$$5x - 4 = 3x$$

$$-4 = -2x$$

$$|x = 2$$

$$2y + 4 = 5y + 1$$

$$4 = 3y + 1$$

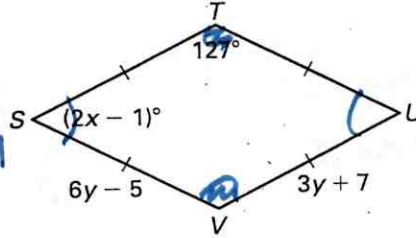
$$3 = 3y$$

$$|y = 1$$

Additional work:

$$5y + 1 = 6$$

$$5y = 5$$

$$|y = 1$$


Handwritten work for problem 12:

$$6y - 5 = 3y + 7$$

$$3y = 12$$

$$|y = 4$$

$$2x - 1 + 127 = 180$$

$$2x + 126 = 180$$

$$2x = 54$$

$$|x = 27$$

The diagonals of rhombus  $PQRS$  intersect at  $T$ . Given that  $m\angle RPS = 30^\circ$  and  $RT = 6$ , find the indicated measure.

13.  $m\angle QPR$

$= 30^\circ$

14.  $m\angle QTP$

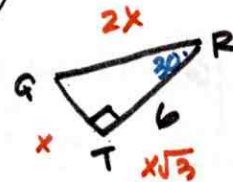
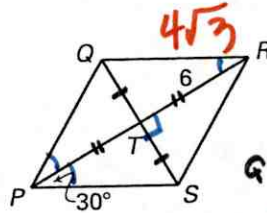
$= 90^\circ$

15.  $RP$

$6 + 6 = 12$

16.  $QT$

$= 2\sqrt{3}$



Handwritten work for problem 16:

$$x = 2\sqrt{3}$$

$$x\sqrt{3} = 6$$

$$2x = 4\sqrt{3}$$

The diagonals of rectangle  $WXYZ$  intersect at  $P$ . Given that  $m\angle YXZ = 50^\circ$  and  $XZ = 12$ , find the indicated measure.

17.  $m\angle WXZ$

$90 - 50 = 40$

18.  $m\angle WPX$

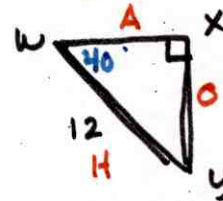
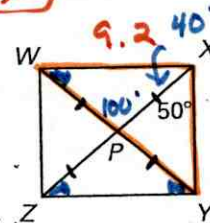
$180 - (2(40)) = 100$

19.  $PY$

$12/2 = 6$

20.  $WX$

$\cos(40) = \frac{WX}{12} = 9.2$



Handwritten work for problem 20:

$$\cos(40) = \frac{WX}{12}$$

$$WX = 12(\cos(40)) = 9.2$$

The diagonals of square  $DEFG$  intersect at  $H$ . Given that  $EH = 5$ , find the indicated measure.

21.  $m\angle GHF$

$= 90^\circ$

22.  $m\angle DGH$

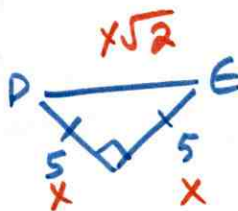
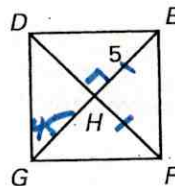
$\frac{90}{2} = 45$

23.  $HF$

5

24.  $DE$

$5\sqrt{2}$



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