

**GEOMETRY CHAPTER 7 REVIEW – PS: Quadrilaterals**

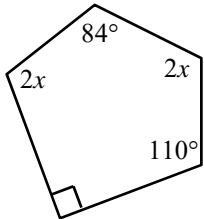
Name \_\_\_\_\_

Show all work for full credit.

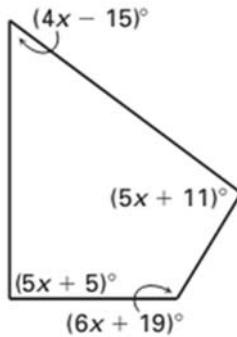
Date \_\_\_\_\_ Period \_\_\_\_\_

- Determine the sum of the interior angles for a 20-gon.
- Determine the measure of each interior angle for a regular pentagon.
- Determine the measure of each exterior angle for a regular octagon.
- Determine the measure of the sum of the exterior angles of a regular hexagon.
- A regular n-gon has an interior angle of  $150^\circ$ . Find the number of sides.
- A regular polygon has an exterior angle of  $8^\circ$ . How many sides does it have?

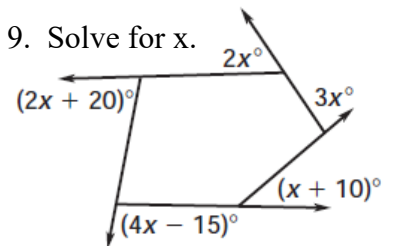
7. Solve for x.



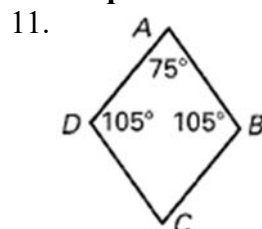
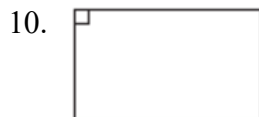
8. Solve for x.



9. Solve for x.

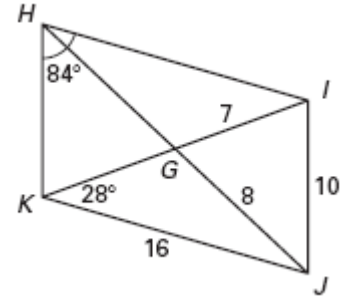


Based on the information given, determine whether the quadrilateral is a parallelogram. Explain.

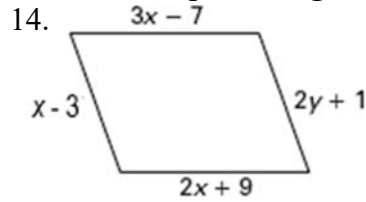
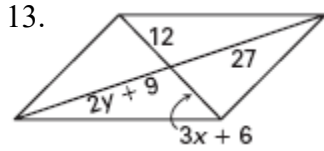


12. Find the indicated measures in the parallelogram *HIJK*.

- a.  $HI =$                       b.  $KH =$                       c.  $GH =$   
 d.  $m\angle KIH =$                 e.  $m\angle JIH =$                 f.  $m\angle KJI =$



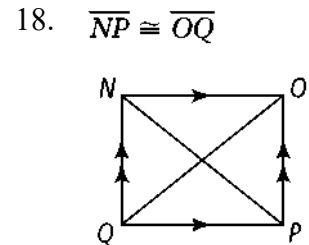
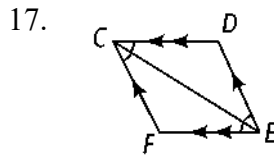
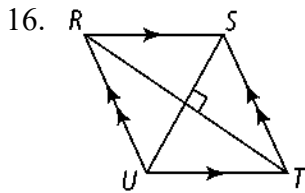
Find the value of each variable that makes the quadrilateral a parallelogram.



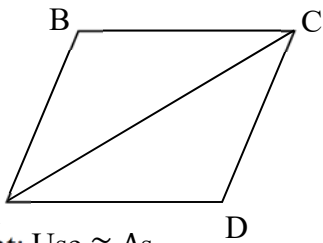
15. True/False: Decide if you are given enough information to prove the quadrilateral is a parallelogram.

- a. One angle is an obtuse angle.                      b. Two pairs of opposite sides are congruent.                      c. One pair of angles is congruent.

Determine if the parallelogram is a rectangle, rhombus, or a square. Explain.



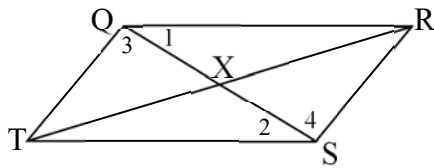
19. Given:  $\overline{AB} \parallel \overline{CD}, \overline{BC} \parallel \overline{DA}$   
 Prove:  $\overline{AB} \cong \overline{CD}, \overline{BC} \cong \overline{DA}$



Hint: Use  $\cong \Delta$ s  
 (Use as many lines as needed on the proof) You cannot use opposite sides are  $\cong$  in a  $\square$  because that is what you are proving.

Statement	Reasoning
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.

20. Given:  $\triangle QTS \cong \triangle SRQ$   
 Prove: QRST is a parallelogram



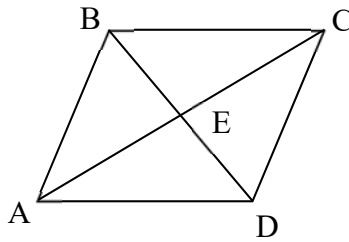
Hint: Use the definition of a parallelogram

Statement	Reasoning
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.

21. **Quadrilateral ABCD is a rhombus. (See diagram)**

a. If  $m\angle EDC = 43^\circ$ , find  $m\angle CBA$ .

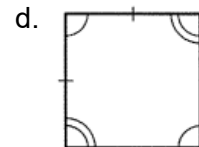
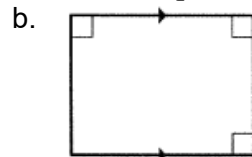
b. If  $m\angle EAB = 57^\circ$ , find  $m\angle ADC$ .



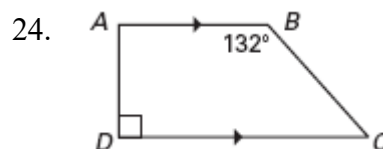
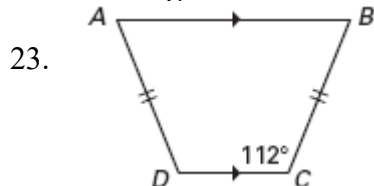
c. If  $m\angle ADE = (5x - 8)^\circ$  and  $m\angle CBE = (3x + 24)^\circ$ , solve for  $x$ .

d. If  $m\angle BAD = (4x + 14)^\circ$  and  $m\angle ABC = (2x + 10)^\circ$ , solve for  $x$ .

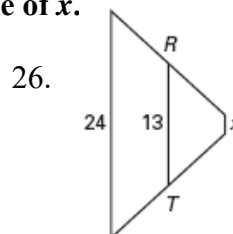
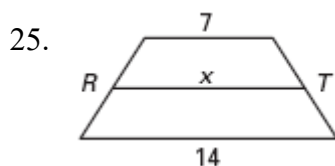
22. Give the most specific name for each of the following quadrilaterals (quadrilateral, trapezoid, kite, parallelogram, rectangle, rhombus or square). Then give a short explanation why.



**Find the angle measures of ABCD.**

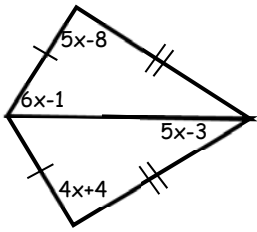


The midsegment of each trapezoid is  $\overline{RT}$ . Find the value of  $x$ .

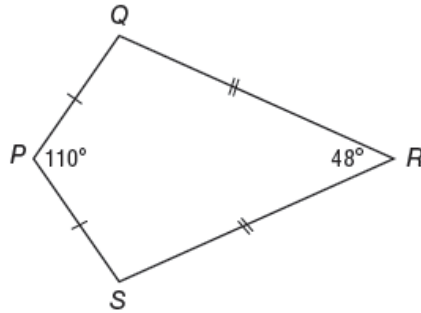


Use the diagram of the kites shown to find:

27.  $x$



28.  $m\angle Q$  and  $m\angle S$



29. Determine whether the statement is *always*, *sometimes* or *never* true.

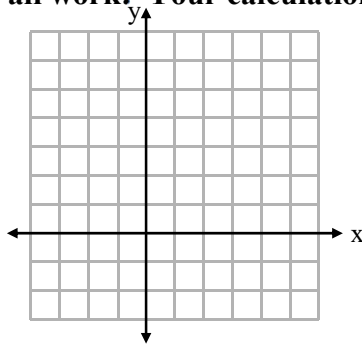
- a. A rhombus is a square
- b. A rectangle is a rhombus
- c. The diagonals of a trapezoid are congruent.
- d. A square is not a rhombus.
- e. All angles of a parallelogram are congruent.
- f. Opposite angles of an isosceles trapezoid are congruent.

30. The coordinates of the vertices of parallelogram ABCD are A(-3, 2), B(-2, -1), C(4, 1), and D(3, 4). The slopes of which line segments could be calculated to show that ABCD is a rectangle?

- A.  $\overline{AB}$  and  $\overline{DC}$
- B.  $\overline{AB}$  and  $\overline{BC}$
- C.  $\overline{AD}$  and  $\overline{BC}$
- D.  $\overline{AC}$  and  $\overline{BD}$

The coordinates form quadrilateral ABCD. Determine the most specific name for the quadrilateral. Show all work! Your calculations must support the type of quadrilateral chosen.

31. A(-4, 0)  
B(-1, 6)  
C(6, 6)  
D(6, 0)



32. G(-4, -2)  
H(-7, 2)  
I(-4, 6)  
J(3, 2)

