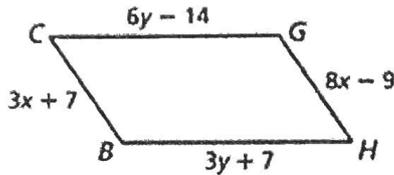
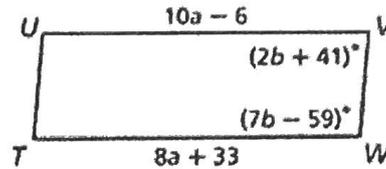


9. Show that $BCGH$ is a parallelogram for $x = 3.2$ and $y = 7$.



$BC = GH = 16.6$
 $CG = HB = 28$
 Opp. sides $\cong \rightarrow \square$.

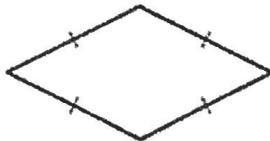
10. Show that $TUVW$ is a parallelogram for $a = 19.5$ and $b = 22$.



$UV = WT = 189$
 $m\angle V = 85^\circ$ $m\angle W = 95^\circ$
 so $\overline{UV} \parallel \overline{WT}$
 Opp. sides \cong & $\parallel \rightarrow \square$.

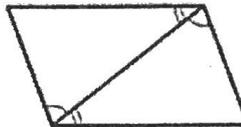
Determine if each quadrilateral must be a parallelogram. Justify your answer.

11.



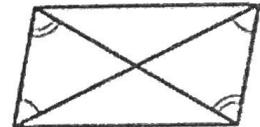
yes

12.



yes

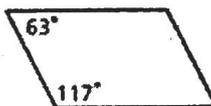
13.



NO

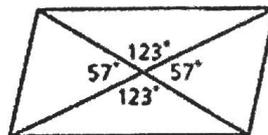
Determine if each quadrilateral must be a parallelogram. Justify your answer.

17.



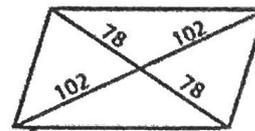
NO

18.



NO

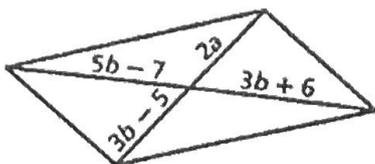
19.



yes, diagonals bisect each other.

Determine if each quadrilateral must be a parallelogram. Justify your answer.

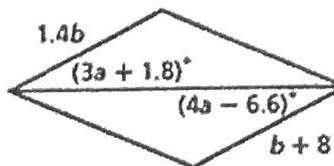
22.



$$a = 7.25$$

$$b = 6.5$$

23.



$$a = 8.4$$

$$b = 20$$

24. **Critical Thinking** Draw a quadrilateral that has congruent diagonals but is not a parallelogram. What can you conclude about using congruent diagonals as a condition for a parallelogram?



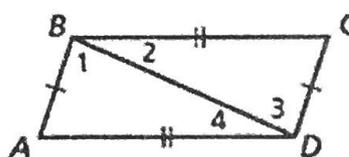
If diagonals of quad, are \cong , you can't conclude its a parallelogram

26. Complete the two-column proof of Theorem 7-2-2 by filling in the blanks.

Given: $\overline{AB} \cong \overline{CD}$,
 $\overline{BC} \cong \overline{DA}$

Prove: $ABCD$ is a parallelogram.

Proof:



Statements	Reasons
1. $\overline{AB} \cong \overline{CD}, \overline{BC} \cong \overline{DA}$	1. Given
2. $\overline{BD} \cong \overline{BD}$	2. a. <u>Reflexive Prop.</u>
3. $\triangle DAB \cong \triangle BCD$	3. c. <u>SSS</u>
4. $\angle 1 \cong \angle 3, \angle 4 \cong \angle 2$	4. CPCTC
5. $\overline{AB} \parallel \overline{CD}, \overline{BC} \parallel \overline{DA}$	5. f. <u>Conv. of Alt. Int. \angle's</u>
6. $ABCD$ is a parallelogram.	6. g. <u>Def. of \square.</u>