

5.1-5.3 Review

Identify whether or not the given shape must be a parallelogram. Justify your answer.

1.
 yes
 both opp sides \parallel

2.
 No pair
 only one pair sides \parallel

3.
 No, it's a kite

4.
 Yes
 one pair
 opp sides \cong and \parallel

5.
 Yes, both pairs
 opp sides \parallel

6.
 Yes, both pairs
 opp sides \cong

Find the value of each variable.

7. Parallelogram IJKL

$a+9 = 3a$
 $a = 2a$
 $a = 4.5$

8. Parallelogram NOPQ

$3s = s+3$
 $2s = 3$
 $s = 1.5$

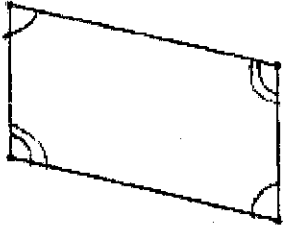
9. Parallelogram STUV

$3p+20 = 7r+10$
 $4p+20 + 3p+20 = 180$
 $7p+40 = 180$
 $7p = 140$
 $p = 20$

$3(20)+20 = 7r+10$
 $80 = 7r+10$
 $70 = 7r$
 $10 = r$

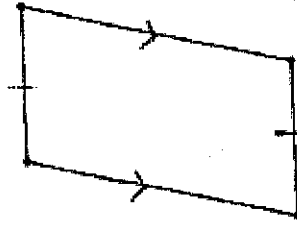
Are the following diagrams parallelograms? Explain.

10.



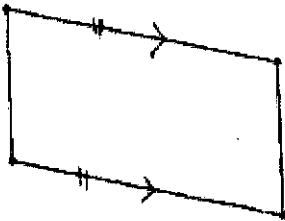
Yes, both pairs opp
 $\angle s \cong$

11.



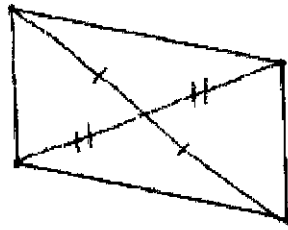
No, only one
 pair opp sides
 \cong and another
 pair \parallel - need
 both!

12.



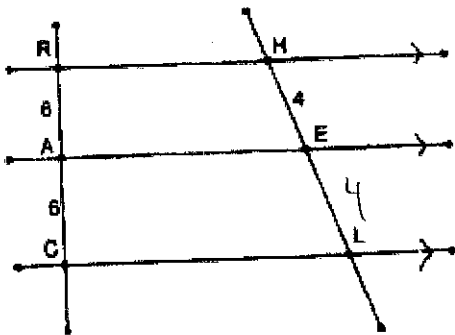
Yes, one pair opp.
 sides \cong and \parallel

13.



Yes, diagonals
 bisect each other

14. In the figure $\overline{RH} \parallel \overline{AE} \parallel \overline{CL}$ Find HL .



$$HL = 8$$