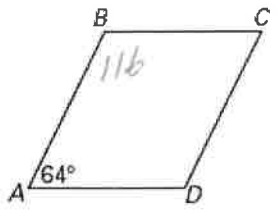
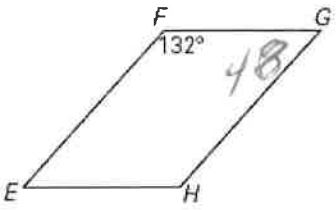
Name _____ Date _____

Find the measure of the indicated angle in the parallelogram.

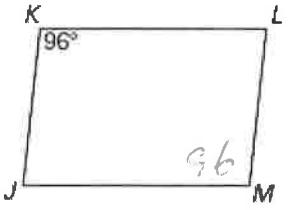
1. Find $m\angle B$.



2. Find $m\angle G$.

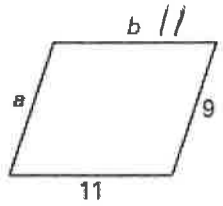


3. Find $m\angle M$.



Find the value of each variable in the parallelogram.

4.



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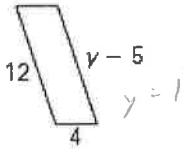

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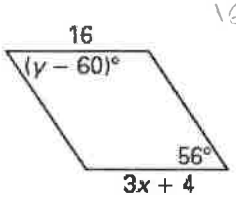

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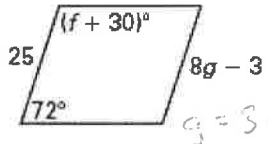
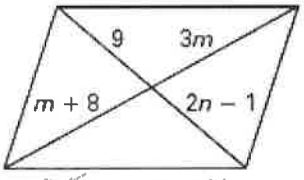
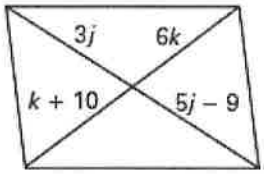


8.

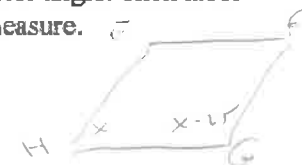


9.



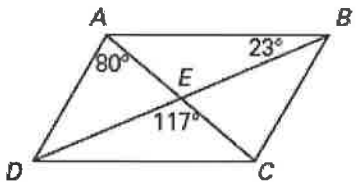
10. In $\square WXYZ$, $m\angle W$ is 50 degrees more than $m\angle X$. Sketch $\square WXYZ$. Find the measure of each interior angle. Then label each angle with its measure.

11. In $\square EFGH$, $m\angle G$ is 25 degrees less than $m\angle H$. Sketch $\square EFGH$. Find the measure of each interior angle. Then label each angle with its measure.



Find the indicated measure in $\square ABCD$.

12. $m\angle AEB$ 117
13. $m\angle BAE$ 40
14. $m\angle AED$ 63
15. $m\angle ECB$ 80
16. $m\angle BAD$ 120
17. $m\angle DCE$ 40
18. $m\angle ADC$ 60
19. $m\angle DCB$ 120



20) Determine the coordinates of the intersection of the diagonals of $\square FGHJ$ with vertices F(-2,4), G(3,5), H(2,-3), and J(-3,-4).

opt 1: find eq for diagonals + solve system

opt 2: find midpoint of a diagonal

m.p. of FH

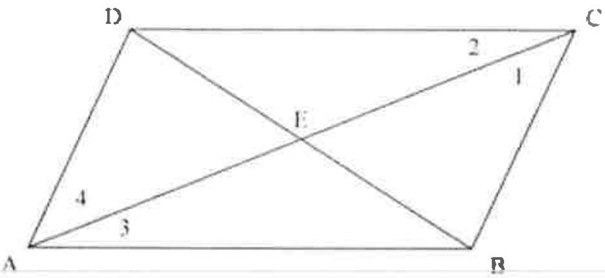
$(0, \frac{1}{2})$

21) What are the coordinates of the intersection of the diagonals of parallelogram MNPR, with vertices M(-3,0), N(-1,3), P(5,4), and R(3,1)?

m.p. of NR

(1, 2)

II. Complete each statement, using Parallelogram DCBA



4. If AD = 20, then BC = 20

5. If AB = 13, then DC = 13

6. If DB = 22, then DE = 11

7. If AE = 18, then AC = 36

8. If m∠ADC = 115°, then m∠ABC = 115

9. If m∠DAB = 75°, m∠ADC = 105

10. If m∠1 = 30°, then m∠4 = 30

11. If m∠AED= 72°, m∠DEC = 108

12. If m∠ADC= 130°, and m∠1= 35°, m∠2= 15

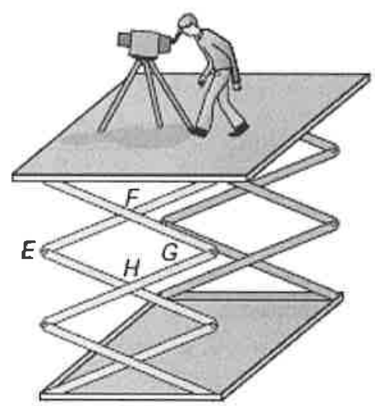
13. If AC = 30 and AE = 3x + 3, then x = 4

$2(3x+3) = 30$
$6x+6 = 30$
$6x = 24$
$x = 4$

14. If DC = 6x + y, BC = 3x + 2y, AB = 25, and AD = 14, then x = 4 and y = 1

$6x + y = 25 \rightarrow 12x + 2y = 50$
$3x + 2y = 14$ $\quad 3x + 2y = 14$
$9x = 36$
$x = 4$
$6(4) + y = 25$
$y = 1$

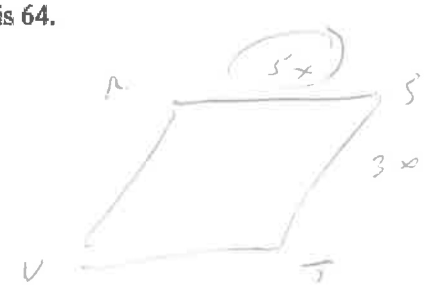
28. Movie Equipment The scissor lift shown at the right is sometimes used by camera crews to film movie scenes. The lift can be raised or lowered so that the camera can get a variety of views of one scene. In the figure, points *E*, *F*, *G*, and *H* are the vertices of a parallelogram.



a. If $m\angle E = 45°$, find $m\angle F$. 135

b. What happens to $\angle E$ and $\angle F$ when the lift is raised? *Explain.* ∡E get Bigger ∡F get Smaller But always Total 180

29. In parallelogram *RSTU*, the ratio of *RS* to *ST* is 5 : 3. Find *RS* if the perimeter of ▱*RSTU* is 64.



P = 64

$5x + 3x + 5x + 3x = 64$
$16x = 64$
$x = 4$

RS = 20