

$$2x^2 - 8x - 10 = 0$$

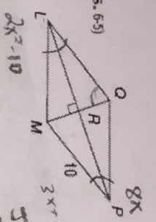
$$x^2 - 4x - 5 = 0$$

$$(x-5)(x+1) = 0$$

$$x = 5$$

$$x = -1$$

ALGEBRA In rhombus  $LMPQ$ ,  $m\angle QLM = 2x^2 - 10$ ,  $m\angle QPM = 8x$ , and  $MP = 10$ . Find the indicated measures: (5)



36.  $m\angle LPQ = 20^\circ$   
 37.  $QL = 10$   
 38.  $m\angle LQP = 140^\circ$   
 39.  $m\angle LQM = 70^\circ$

Key

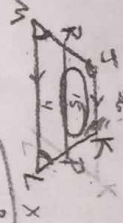
4A. ALGEBRA  $JKLM$  is an isosceles trapezoid with  $\overline{JK} \parallel \overline{LM}$  and median  $\overline{RP}$ . Find  $RP$  if  $K = 2x + 3$ ,  $RP = 5 + x$ , and  $ML = \frac{1}{2}x - 1$ .

4B. Find the measure of each base angle of  $JKLM$  if  $m\angle L = x$  and  $m\angle J = 3x + 12$ .

$$x + x + 3x + 12 + 3x + 12 = 360$$

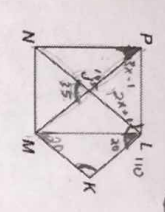
$$8x = 336$$

$$x = 42^\circ \text{ and } 138^\circ$$



ALGEBRA Use rectangle  $LMNP$ , parallelogram  $LKMF$ , and the given information to solve each problem. (Lesson 6-4)

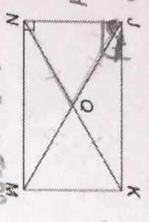
- 42. If  $LN = 10$ ,  $LJ = 2x + 1$ , and  $PL = 3x - 1$ , find  $x$ .
- 43. If  $m\angle PLK = 110$ , find  $m\angle LKM$ .
- 44. If  $m\angle MNI = 35$ , find  $m\angle MPN$ .



42.  $x = 2$   
 43.  $140^\circ$   
 44.  $17.5^\circ$

ALGEBRA Quadrilateral  $JKNV$  is a rectangle.

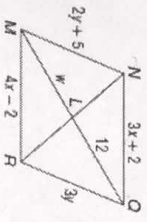
- 84. 7. If  $NQ = 5x - 3$  and  $QM = 4x + 6$ , find  $NK$ .
- 11. 8. If  $NQ = 2x + 3$  and  $QK = 5x - 9$ , find  $JQ$ .
- 26. 9. If  $NM = 8x - 14$  and  $JK = x^2 + 1$ , find  $JK$ .
- 8. 10. If  $m\angle NJM = 2x - 3$  and  $m\angle KJM = x + 5$ , find  $x$ .
- 11. If  $m\angle NKM = x^2 + 4$  and  $m\angle KNM = x + 30$ , find  $m\angle JKN$ .
- 12. If  $m\angle JKN = 2x^2 + 2$  and  $m\angle NKM = 14x$ , find  $x$ .



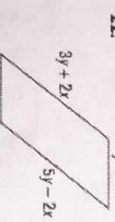
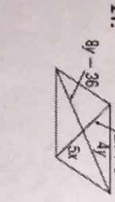
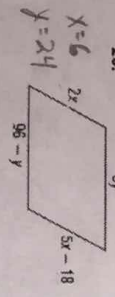
Use  $\square NQKM$  to find each measure or value. (Lesson 6-2)

41.  $12$   
 43.  $NQ = 14$

42.  $x = 4$   
 44.  $QR = 15$



ALGEBRA Find  $x$  and  $y$  so that each quadrilateral is a parallelogram.

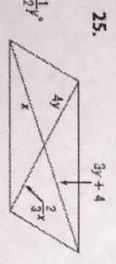
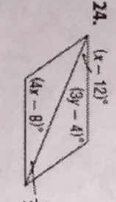
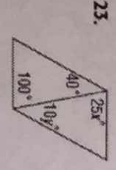


$$y + 2x = 4$$

$$3y + 2x = 5y - 2x$$

$$4y = 2y$$

$$2x = y$$



$$x = 4$$

$$y = 4$$

$$\frac{1}{2}y = x - 12$$

$$y = 2(x - 12)$$

$$\frac{2}{3}x = 4y$$

$$3y + 4 = x$$

$$3(6x - 2y) - 4 = 4x - 8$$

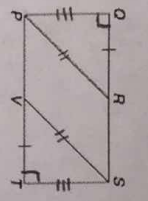
$$x = 6y$$

$$3y + 4 = 6y$$

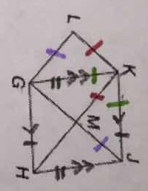
$$y = 4/3$$

$$x = 8$$

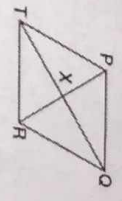
35. Given:  $\overline{POST}$  is a rectangle.  
 $\overline{OR} \cong \overline{VT}$   
 Prove:  $\overline{PR} \cong \overline{VS}$



36. Given:  $DEAC$  and  $FEAB$  are rectangles.  
 $\angle GKH \cong \angle LHK$   
 $\overline{GJ}$  and  $\overline{HL}$  intersect at  $L$ .  
 Prove:  $GHLK$  is a parallelogram.

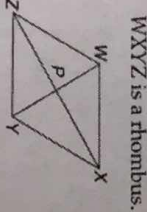
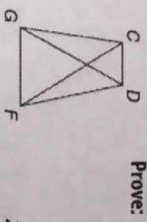


13. Given:  $\triangle LCK \cong \triangle MLK$   
 $GHLK$  is a parallelogram.  
 Prove:  $GHLK$  is a rhombus.

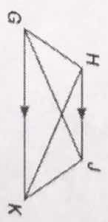


12. Given:  $\triangle TPX \cong \triangle QPX \cong \triangle ORX \cong \triangle TRX$   
 Prove:  $TPQR$  is a rhombus.

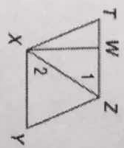
1. PROOF  $CDFG$  is an isosceles trapezoid with bases  $\overline{CD}$  and  $\overline{FG}$ . Write a flow proof to prove  $\angle DGF \cong \angle CFG$ .



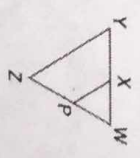
7. Given:  $\overline{HJ} \parallel \overline{CK}$ ,  $\triangle HCK \cong \triangle JKC$ ,  $\overline{HG} \parallel \overline{JK}$   
 Prove:  $GHLK$  is an isosceles trapezoid.



8. Given:  $\triangle TZX \cong \triangle YXZ$ ,  $\overline{WX} \parallel \overline{ZY}$   
 Prove:  $WXYZ$  is a trapezoid.



9. Given:  $ZYXP$  is an isosceles trapezoid.  
 Prove:  $\triangle PWX$  is isosceles.



10. Given:  $E$  and  $C$  are midpoints of  $\overline{AD}$  and  $\overline{DB}$ ;  $\overline{AD} \cong \overline{DB}$  and  $\angle A \cong \angle B$ .  
 Prove:  $ABCE$  is an isosceles trapezoid.

