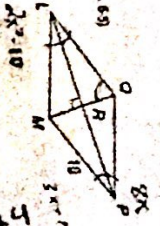


$x^2 - 5x - 10 = 0$   $(x-5)(x+2) = 0$   $x=5$   $x=-2$

ALGEBRA In rhombus LMNP,  $m\angle QLM = 2x^2 - 10$ ,  $m\angle QMN = 8x$ , and  $MP = 10$ . Find the indicated measures: 69



49.  $m\angle LQP = 28^\circ$   
50.  $m\angle QP = 140^\circ$

71. QL 10  
72.  $m\angle QMN = 70^\circ$



41.  $HLN = 10, LJ = 2x + 1$ , and  $PL = 3x - 1$ , find  $x$ .  $2x + 1 = 3x - 1$   $x = 2$

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

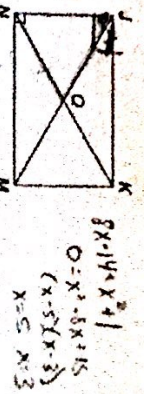


42.  $HLN = 10, LJ = 2x + 1$ , and  $PL = 3x - 1$ , find  $x$ .  $2x + 1 = 3x - 1$   $x = 2$

43. If  $m\angle PLK = 110$ , find  $m\angle LKN$ .  $140^\circ$

44. If  $m\angle QLN = 35$ , find  $m\angle MPN$ .  $180 - 140 = 40$   $40/2 = 20$

ALGEBRA Quadrilateral JKLN is a rectangle.

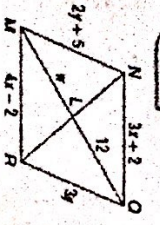


$3x + 14 + x + 9 = 90$   
 $4x + 23 = 90$   
 $4x = 67$   
 $x = 16.75$

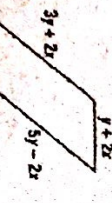
8. If  $NQ = 5x - 3$  and  $QM = 4x + 6$ , find  $NK$ .  $5x - 3 = 4x + 6$   $x = 9$   
11. If  $NQ = 2x + 3$  and  $QK = 5x - 9$ , find  $QO$ .  $2x + 3 = 5x - 9$   $x = 4$   
13. If  $NM = 8x - 14$  and  $JK = x^2 + 1$ , find  $JK$ .  
10. If  $m\angle NJM = 2x - 3$  and  $m\angle KJM = x + 5$ , find  $x$ .  
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  $x$ .  
 $2x^2 + 2 = 14x$   $2x^2 - 14x + 2 = 0$   $x = 7$

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

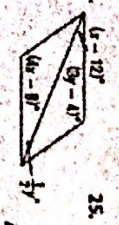
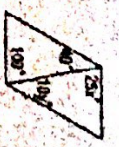
41.  $m\angle = 12$   
42.  $x = 4$   
43.  $NQ = 14$   
44.  $QR = 15$



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



$3y + 2x = 5y - 2x$   
 $4x = 2y$   
 $2x = y$



$4x = 4y$   
 $x = y$

$x = 4$   
 $y = 4$

$\frac{1}{2}y = x - 12$   
 $y = 2(x - 12)$   
 $3y - y = 4x - 8$   
 $2y = 4x - 8$   
 $y = 2x - 4$

$\frac{2}{3}x = 4y$   
 $3y + 4 = x$   
 $3y + 4 = 6y$   
 $y = 4/3$   
 $x = 8$

Key

Proofs on back!

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



36. Given:  $DEAC$  and  $FLAB$  are rectangles.  
 $\angle CKH \cong \angle JHK$   
 $\overline{CI}$  and  $\overline{BK}$  intersect at  $L$ .  
Prove:  $CHJK$  is a parallelogram.

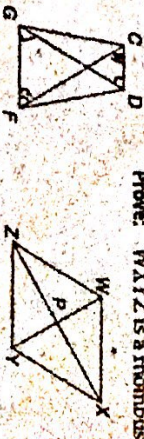


12. Given:  $\triangle TPX \cong \triangle QPY$   
 $\triangle ORX \cong \triangle TRX$   
Prove:  $TPQR$  is a rhombus.



13. Given:  $\triangle LCK \cong \triangle MKJ$   
 $CHJK$  is a parallelogram.  
Prove:  $CHJK$  is a rhombus.

11. Given:  $\triangle WZY \cong \triangle WXY$ ,  $\triangle WZY$  and  $\triangle XYZ$  are isosceles.  
Prove:  $WXYZ$  is a rhombus.

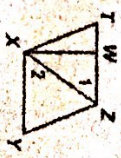


1. PROOF  $CDFG$  is an isosceles trapezoid with bases  $\overline{CD}$  and  $\overline{FG}$ . Write a flow proof to prove  $\angle DGF \cong \angle CFG$ .

7. Given:  $\overline{HI} \parallel \overline{CK}$ ,  $\triangle HCK \cong \triangle JKG$ ,  $\overline{HG} \parallel \overline{JK}$   
Prove:  $CHJK$  is an isosceles trapezoid.



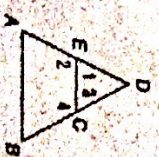
8. Given:  $\triangle TZK \cong \triangle VYZ$ ,  $\overline{WX} \parallel \overline{ZY}$   
Prove:  $XYZW$  is a trapezoid.



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



10. Given:  $E$  and  $C$  are midpoints of  $\overline{AD}$  and  $\overline{DB}$ ,  $\overline{AD} \cong \overline{DB}$  and  $\angle A \cong \angle 1$ .  
Prove:  $ABCE$  is an isosceles trapezoid.





35) PQST is a rectangle  
 $\overline{QR} \cong \overline{VT}$   
 $\angle PQR \cong \angle STV$   
 $\overline{PQ} \cong \overline{ST}$   
 $\triangle PQR \cong \triangle STV$   
 $\overline{PR} \cong \overline{VS}$

Given  
 Given  
 Defn of rectangle  
 Defn of rectangle  
 SAS  
 CPCTC

36) Skip this figure wasn't copied + it's harder than test stuff w/out it. "

12)  $\triangle TPX \cong \triangle QPQ \cong \triangle QRX \cong \triangle TRX$   
 $\overline{TP} \cong \overline{QP} \cong \overline{QR} \cong \overline{TR}$   
 TPQR is a rhombus

Given  
 CPCTC  
 defn of rhombus (all sides  $\cong$ )

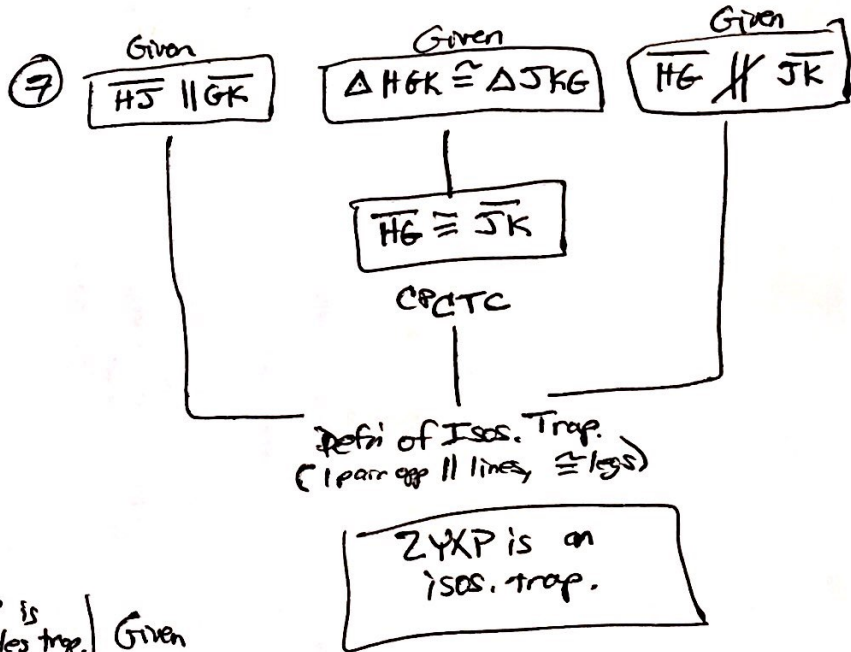
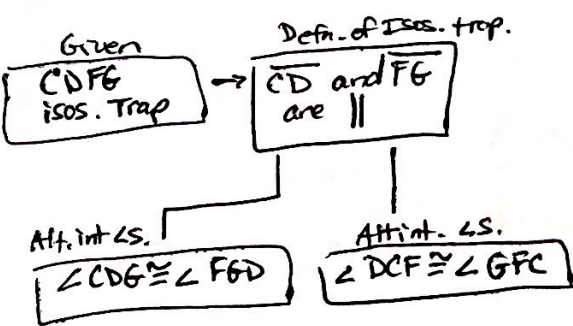
13)  $\triangle LGK \cong \triangle MJK$   
 GHJK is a  $\square$   
 $\overline{GK} \cong \overline{JK}$   
 $\overline{KS} \cong \overline{GH}$  and  $\overline{GK} \cong \overline{JH}$   
 $\overline{GK} \cong \overline{GH}$   
 GHJK is a rhombus

Given  
 Given  
 CPCTC  
 defn of  $\square$   
 transitive  
 defn of rhombus (all sides  $\cong$ )

11)  $\triangle WZY \cong \triangle WXY$   
 $\triangle WZY \cong \triangle XYZ$   
 $\overline{WZ} \cong \overline{XY}$   
 $\overline{WZ} \cong \overline{WX}$   
 $\overline{WX} \cong \overline{XY}$   
 $\overline{ZY} \cong \overline{YX}$   
 WXYZ is a rhombus

Given  
 CPCTC  
 CPCTC  
 transitive  
 CPCTC  
 defn of rhombus (all sides  $\cong$ )

1) CDFG is an isosceles trapezoid w/  $\overline{CD}$  and  $\overline{FG}$  as bases  
 Flow to prove  $\angle DGF \cong \angle CFG$



8)  $\triangle TXZ \cong \triangle YXZ$   
 $\overline{WX} \parallel \overline{ZY}$   
 $\angle 1 \cong \angle 2$   
 $\angle XZY \cong \angle ZXT$   
 $\overline{TZ} \parallel \overline{XY}$   
 XYZW is a trapezoid

Given  
 Given  
 CPCTC  
 CPCTC  
 Defn of || lines (both pairs alt. int.  $\angle$ s  $\cong$ )  
 Defn of trap. (opp. || sides)

9) ZYXP is isosceles trap.  
 $\overline{PX} \cong \overline{PZ}$   
 $\overline{PZ} \parallel \overline{XP}$   
 $\angle WYZ \cong \angle WZY$   
 $\angle WYZ \cong \angle WXP$   
 $\angle WZY \cong \angle WXP$   
 $\angle WXP \cong \angle WXP$   
 $\triangle PUX$  is isosceles

Given  
 defn. of isos. trap.  
 defn of isos. trap.  
 defn. isos. trap.  
 Corr  $\angle$ s  $\cong$   
 Transitive  
 Defn of isos.  $\triangle$

10) E and C are midpts of  $\overline{AD}$  and  $\overline{DB}$   
 $\overline{AE} \cong \overline{ED}$ ,  $\overline{EC} \cong \overline{CD}$   
 $\overline{AD} \cong \overline{DB}$   
 $\angle A \cong \angle 1$   
 $\overline{AB} \parallel \overline{EC}$   
 ABCE is isos. trap.

Given  
 defn of midpt.  
 Given  
 Given  
 defn of || line (corr.  $\angle$ s  $\cong$ )  
 defn of trap. isosceles.