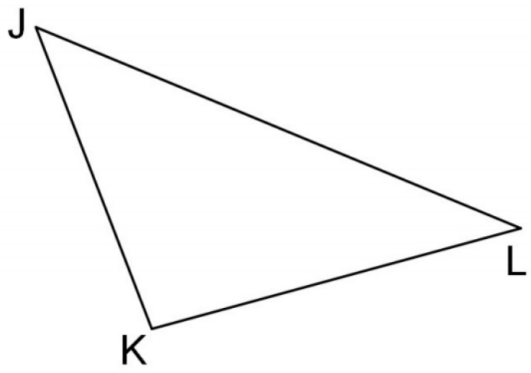
1. Use ΔJKL shown.



a. What angle is included between JK and KL?

$\angle K$

b. What angles include JL?

$\angle J + \angle L$

c. What sides include $\angle J$?

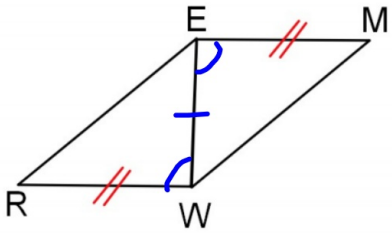
$\overline{KJ}$ & $\overline{JL}$

d. What side is include between $\angle L$ and $\angle K$?

$\overline{KL}$

2. The two triangles shown are congruent. Give reasons for each statement then fill in the congruence statement.

Given: $\overline{EM} \parallel \overline{WR}$



1. $\overline{EM} \parallel \overline{WR}$ and $\overline{EM} \cong \overline{WR}$ Reason: Given

2. $EW \cong EW$ Reason: Refl. prop.

3. $\angle MEW \cong \angle RWE$ Reason: alt int $\angle$'s

4. Δ MEW Δ RWE Reason: SAS

Hwk #20 Answers

1. $\angle CAB \cong \angle DAB$; $\angle ABC \cong \angle ABD$; $\angle C \cong \angle D$; $AC \cong AD$; $AB \cong AB$; $CB \cong DB$

5. ML 6. $\angle B$ 11. ΔJBK 12. ΔMCL

14. $PO \cong SI$; $OL \cong ID$; $LY \cong DE$; $PY \cong SE$

24. Yes

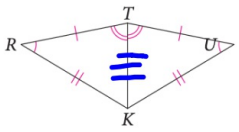
Statements	Reasons
1. $\angle RTK \cong \angle UTK$	1. Given
2. $\angle R \cong \angle U$	2. Given
3. $\angle RKT \cong \angle UKT$	3. Thm 4-1
4. $TR \cong TU$	4. Given
5. $RK \cong UK$	5. Reflexive Prop.
6. $\Delta TRK \cong \Delta TUK$	6. Def. of Cong. Triangles

26. No; Corresponding sides are not congruent.

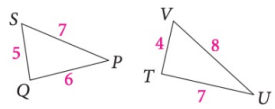
39. $\Delta BCE \cong \Delta ADE$ 40. $\Delta TPK \cong \Delta TRK$

Developing Proof **In Exercises 24–27, can you conclude the figures are congruent? Justify each answer.**

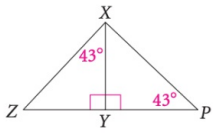
24. $\triangle TRK$ and $\triangle TUK$



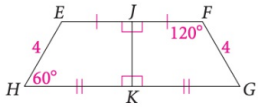
25. $\triangle SPQ$ and $\triangle TUV$



26. $\triangle XYZ$ and $\triangle XYP$



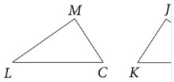
27. *HEJK* and *GFJK*



lders use the King Post truss, below left, for the top of a simple his truss, $\triangle ABC \cong \triangle ABD$. List the congruent corresponding parts.

$\Delta LMC \cong \Delta BJK$. Complete the congruence statements.

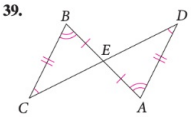
3. $\overline{LC} \cong$? 4. $\overline{KJ} \cong$?
5. $\overline{JB} \cong$? 6. $\angle L \cong$?
7. $\angle K \cong$? 8. $\angle M \cong$?
9. $\triangle CML \cong$? 10. $\triangle KBJ \cong$?
11. $\triangle MLC \cong$? 12. $\triangle JKB \cong$?



***POLY* ≅ *SIDE*. List each of the following.**

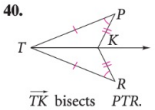
14. four pairs of congruent sides

39.



E is the midpoint of $\overline{CD}$.

40.



$\overline{TK}$ bisects *PTR*.

Sec 4-1: Congruent Figures

Two figures that:

1. Have the same shape

and

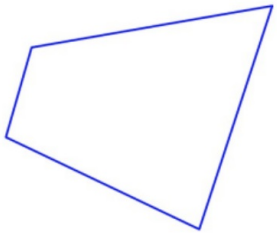
2. Have the same size

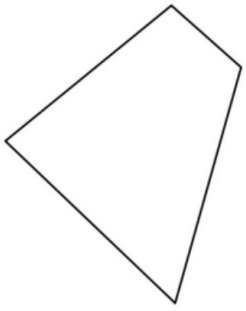
How could you show somebody that these two figures are congruent?

If one of the figures fits exactly onto the other by

- Sliding (translation)
- Turning (rotation)
- Flipping (reflection)

Or any combination of these





Same Shape:

Corresponding Angles are Congruent

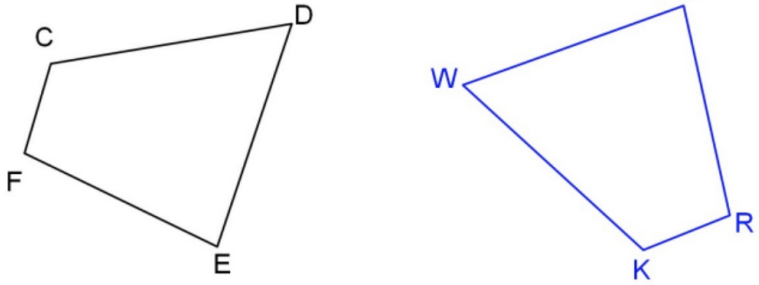
Same Size:

Corresponding Sides are Congruent

1. Name these congruent quadrilaterals. CDEF ≅ KWMR

2. W corresponds with D

3. $\overline{DE}$ corresponds with $\overline{WM}$



Given: NTX ≅ HQF

Name the corresponding parts:

1. N corr w/ H
   $\angle N \cong \angle H$
2. $\angle T \cong \angle Q$
3. $\angle X \cong \angle F$
4. $\overline{NT} \cong \overline{HQ}$
5. $\overline{TX} \cong \overline{QF}$
6. $\overline{NX} \cong \overline{HF}$

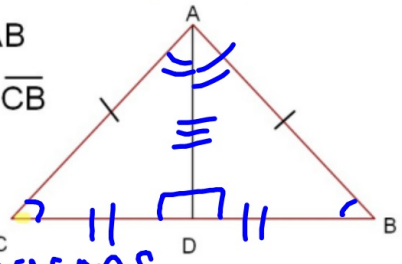
To prove that two figures are congruent you need to show that all pairs of corresponding parts are congruent.

Given: $\overline{AD}$ bisects $\angle CAB$

$\overline{AD}$ is ⊥ bisector of $\overline{CB}$

$\angle ACD \cong \angle ABD$

Prove: $\triangle ADC \cong \triangle ABD$



∴ $\triangle ADC \cong \triangle ABD$

Statements	Reasons
S ① $AC \cong AB$	Given
S ② $AD \cong AD$	Refl.
S ③ $CD \cong BD$	def of bisector
A ④ $\angle ADC \cong \angle ADB$	def of ⊥ bisector
A ⑤ $\angle ACD \cong \angle ABD$	Given
A ⑥ $\angle CAD \cong \angle BAD$	def of ∠ bisector.

Use the given congruence statement to complete the missing information.

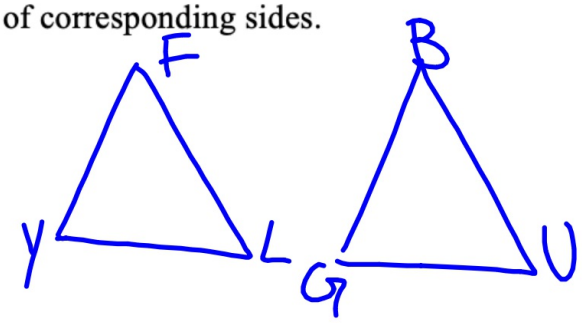
1. $\Delta DEF \cong \Delta KJI$ $\overline{FD} \cong$ $\overline{IK}$

2. $\Delta BAC \cong \Delta LMN$ $\angle A \cong$ $\angle M$

3. $\Delta TUV \cong \Delta GFE$ $\angle V \cong$ $\angle E$

4. $\Delta WVU \cong \Delta GHJ$ $\Delta UWV \cong$ ΔJGH

5. $\Delta FLY \cong \Delta BUG$. List three pairs of corresponding angles and three pairs of corresponding sides.



ANGLES:

$\angle F \cong \angle B$

$\angle Y \cong \angle G$

$\angle L \cong \angle U$

SIDES:

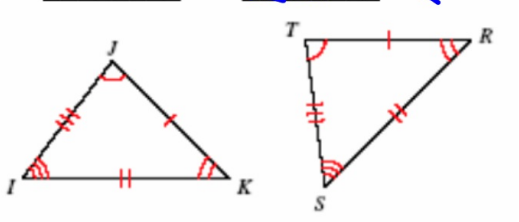
$FL \cong BU$

$UG \cong LY$

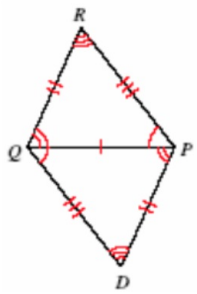
$YF \cong GB$

Write a congruence statement for each pair of congruent triangles below.

6. $\Delta IJK \cong \Delta STR$

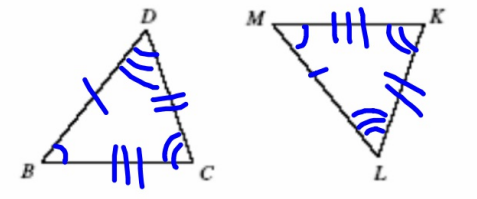


7. $\Delta RQP \cong \Delta DPQ$

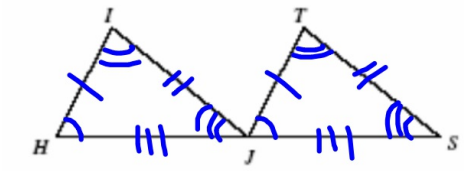


Mark the corresponding angles and sides of each pair of triangles using the given congruence statement. Be sure to use the appropriate number of tick marks or arc marks.

8. $\Delta BDC \cong \Delta MLK$



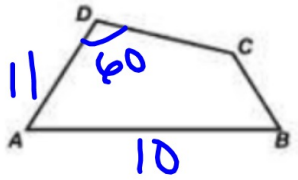
9. $\Delta HIJ \cong \Delta JTS$

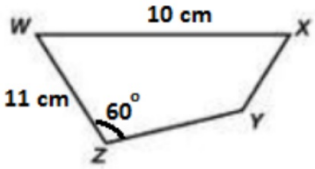


10. $ABCD \cong WXYZ$. Fill in the missing information from polygon ABCD.

$m\angle Z = 60° = \angle D$

$WX = 10 \text{ cm} = AB$





Classwork: Practice 4.1 Worksheet

IXL #11 - G.3 (if you didn't do it accidently last week) &
J.1 due Friday at 4pm!