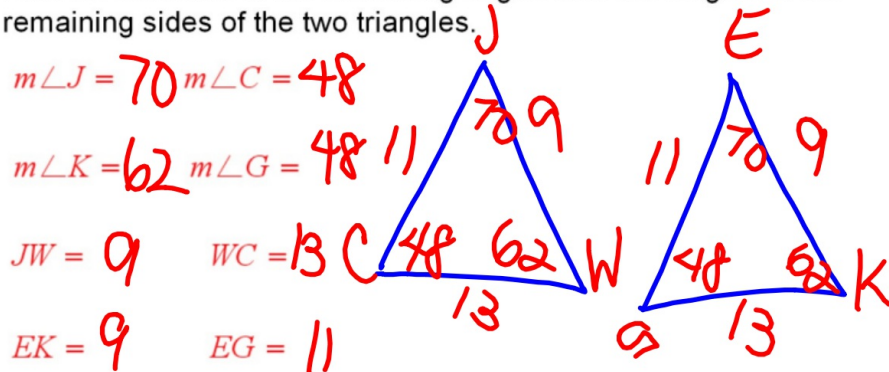


Given: $\triangle JWC \cong \triangle EKG$ $m\angle W = 62^\circ$ $m\angle E = 70^\circ$
 The perimeter of $\triangle EKG = 33$
 $KG = 13$ $JC = 11$

Find the measure of the remaining angles and the lengths of the remaining sides of the two triangles.

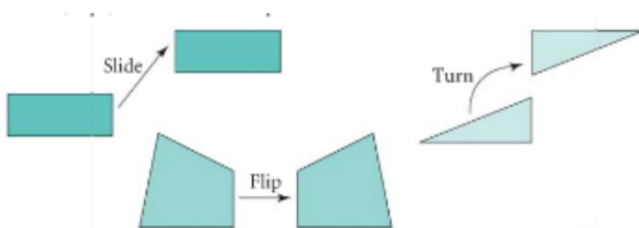


Geometry

4-1: Congruent Figures

Objective: Recognize Congruent Figures and their Corresponding Parts

Congruent figures have same size/shape. When two figures are congruent, you can move one so that it fits exactly on the other one. Three ways to make such a move—a Slide, a turn, and a Flip—are shown below.



Congruent polygons have congruent corresp. parts \rightarrow sides.
 When you name congruent polygons, always list corresp vertices. & angles.



C corresponds to R .
 $\angle B$ corresponds to $\angle Q$.
 \overline{AX} corresponds to \overline{PY} .
 $ACBX \cong PRQY$

Example 1: $\triangle TJD \cong \triangle RCF$. List the congruent corresponding parts.

Angles:

$$\angle T \cong \angle R$$

$$\angle J \cong \angle C$$

$$\angle D \cong \angle F$$

Sides:

$$\overline{TJ} \cong \overline{RC}$$

$$\overline{JD} \cong \overline{CF}$$

$$\overline{DT} \cong \overline{FR}$$

QC 1: $\triangle WYS \cong \triangle MKV$. List the congruent corresponding parts.

Angles:

$$\angle W \cong \angle M$$

$$\angle Y \cong \angle K$$

$$\angle S \cong \angle V$$

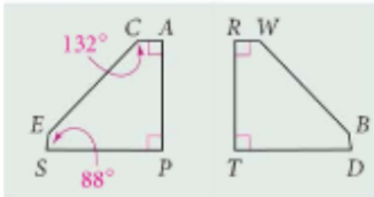
Sides:

$$\overline{WY} \cong \overline{MK}$$

$$\overline{WS} \cong \overline{MV}$$

$$\overline{YS} \cong \overline{KV}$$

Example 2: The fins of the Space Shuttle suggest congruent pentagons. Find $m\angle B$.



$$132 + 180 + 88 + x = 540$$

$$x = 140^\circ$$

$$\angle B = 140^\circ$$

QC 2: It is given that $\triangle WYS \cong \triangle MKV$. If $m\angle Y = 35^\circ$, what is $m\angle K$? Explain.

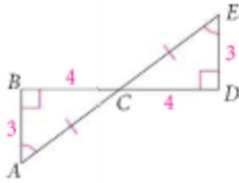
$$\angle K = 35$$

b/c corresp
 \angle 's are \cong .

Two triangles are congruent when they have ~~three pairs of \cong corresp~~
and ~~three pairs of \cong corresp~~ \angle 's. ~~sides~~

Example 3: Decide whether the triangles are congruent. Justify your answer and write the congruence statement.

$$\therefore \triangle ABC \cong \triangle EDC$$



QC 3: Can you conclude $\triangle JKL \cong \triangle MNL$? Justify your answer.



\therefore The triangles
are not \cong .
corresp sides are
not \cong .

The next theorem follows from the Triangle-Angle-Sum Theorem.

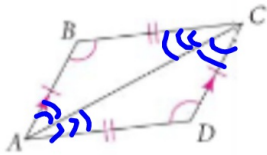
Theorem 4-1

If two angles of one triangle are congruent to two angles of another triangle, then

the third \angle 's are \cong .
 $\angle C \cong \angle F$.



Example 4: Explain how you know that $\triangle ABC \cong \triangle ADC$.



Statements	Reasons
1. $\overline{AB} \cong \overline{DC}$	Given
$\overline{BC} \cong \overline{AD}$	
$\overline{AC} \cong \overline{AC}$	Reflex. prop.
$\angle B \cong \angle D$	Given.
$\angle BCA \cong \angle DAC$	Alt int \angle 's \cong
$\angle BAC \cong \angle DCA$	
$\triangle ABC \cong \triangle ADC$	Def. of \cong .

Hwk #20 - due tomorrow

Sect. 4.1

Pages: 200-202

Problems: 1, 5, 6, 11, 12, 14, 24, 26, 39, 40

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