

Grab a Week #10 Packet Bell Ringer

Monday 1/27

1. Do you have enough info to prove the triangles are congruent by SSS? If not, what's missing?

$\triangle PQS \cong \triangle RQS$ $\triangle ABD \cong \triangle CDB$

2. Is $\overline{DE} \cong \overline{DF}$? Explain.

3. Given G is the midpoint of \overline{EH} , $\overline{FG} \cong \overline{GI}$, $\angle E$ and $\angle H$ are right angles.
Prove $\triangle EFG \cong \triangle HIG$

Handwritten notes:
 PS & SR are missing
 1. G is mid of EH
 S $\overline{FG} \cong \overline{GI}$
 A $\angle E \cong \angle H$ (right angles)
 2. $\angle EGF \cong \angle IGH$ (vertical angles)
 3. $\triangle EFG \cong \triangle HIG$ (AAS)
 1. Given
 2. Vertical angles
 3. AAS

Jan 2-4:13 PM

12.5 online hw due tomorrow
 Week #9 Packet due tomorrow

Ch 11 Test Retake due Friday
 Ch 12 Test Friday

Jan 5-12:07 AM

Determine which triangle congruence theorem, if any, can be used to prove the triangles are congruent.

1. **SAS**

2. **AAS**

3. **AAS**

4. **AAA**

Warm Up

Essential Question

How can you prove two triangles are congruent?

Essential Question

Theorem

Angle-Side-Angle (ASA) Congruence Theorem

If two angles and the included side of one triangle are congruent to two angles and the included side of a second triangle, then the two triangles are congruent.

If $\angle A \cong \angle D$, $\overline{AC} \cong \overline{DF}$, and $\angle C \cong \angle F$, then $\triangle ABC \cong \triangle DEF$.

Proof p. 626

Theorem

Theorem

Angle-Angle-Side (AAS) Congruence Theorem

If two angles and a non-included side of one triangle are congruent to two angles and the corresponding non-included side of a second triangle, then the two triangles are congruent.

If $\angle A \cong \angle D$, $\angle C \cong \angle F$, and $\overline{BC} \cong \overline{EF}$, then $\triangle ABC \cong \triangle DEF$.

Proof p. 627

Theorem

Notice where the "side" is for ASA vs AAS

Angle Side included side Angle
ASA AAS

Jan 5-12:13 AM

Which are congruent by ASA? AAS?

ASA AAS ASA ASA AAS AAS

Jan 5-12:09 AM

Can the triangles be proven congruent with the information given in the diagram? If so, state the theorem you would use.

SSS

Monitoring Progress 1

Given $\overline{AD} \parallel \overline{EC}$, $\overline{BD} \cong \overline{BC}$
Prove $\triangle ABD \cong \triangle EBC$

Statement	Reason
1. $\overline{AD} \parallel \overline{EC}$	1. Given
2. $\angle ABD \cong \angle CBE$	2. Vertical \angle 's
3. $\angle DAB \cong \angle BCE$	3. Alt. Int. \angle 's
4. $\triangle ABD \cong \triangle EBC$	4. AAS Congruence Thm

Example 2

Given: $\overline{AB} \perp \overline{AD}$, $\overline{DE} \perp \overline{AD}$, and $\overline{AC} \cong \overline{DC}$.
Prove: $\triangle ABC \cong \triangle DEC$.

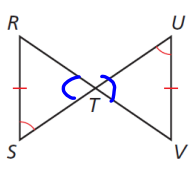
Statement	Reason
1. $\overline{AB} \perp \overline{AD}$, $\overline{DE} \perp \overline{AD}$	1. Given
2. $\angle ACB \cong \angle ECD$	2. Vertical \angle 's
3. $\triangle ABC \cong \triangle ECD$	3. ASA Congruence Thm.

Monitoring Progress 2

Given $\overline{HF} \parallel \overline{GK}$, $\angle F$ and $\angle K$ are right angles.
Prove $\triangle HFG \cong \triangle GKH$

Statement	Reason
1. $\angle F$ and $\angle K$ are right \angle 's	1. Given
2. $\overline{GH} \cong \overline{GH}$	2. Reflexive P.
3. $\angle FHG \cong \angle HGK$	3. Alt. Int. \angle 's
4. $\triangle HFG \cong \triangle GKH$	4. AAS Cong. Thm

Example 3

Given: $\angle S \cong \angle U$ and $\overline{RS} \cong \overline{VU}$.		Statement	Reason
Prove: $\triangle RST \cong \triangle VUT$.		1. $\angle S \cong \angle U$ $\overline{RS} \cong \overline{VU}$	1. Given
		2. $\angle RTS \cong \angle UTV$	2. Vertical Angles
		3. $\triangle RST \cong \triangle VUT$	3. AAS Congruence Thm.

due Wednesday

12.6 online hw
Pg 630-632 #s 1-11, 15-19 odds, 26, 28, 30, 34

Monitoring Progress 3

Jan 5-12:19 AM