

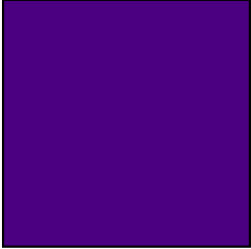
August 27, 2018

What does triangle congruency mean?

Find an explanation and a picture, using technology.

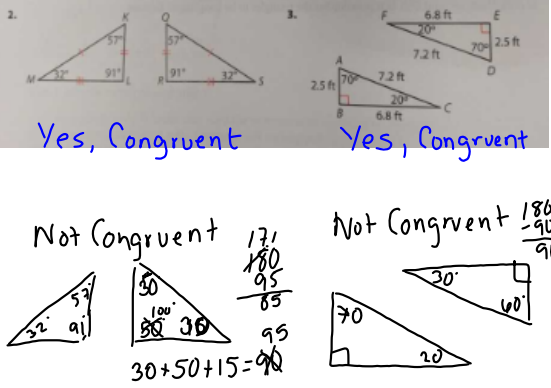
Aug 24-10:10 AM

Now the triangle sum theorem using paper.....



Aug 24-10:44 AM

For 2-5, determine whether the given triangles are congruent. Explain your reasoning.



Yes, Congruent

Yes, Congruent

Not Congruent

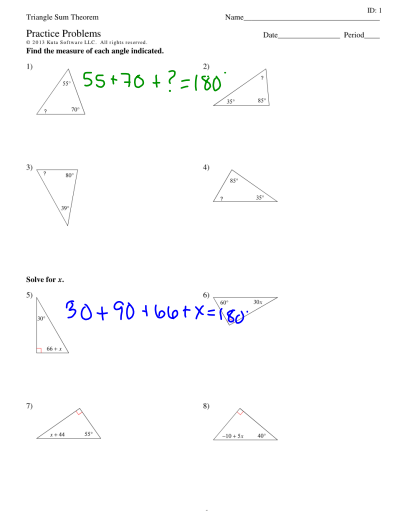
Not Congruent

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Triangle Sum Theorem

Practice Problems

Find the measure of each angle indicated.



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Choose 2 from #1-4

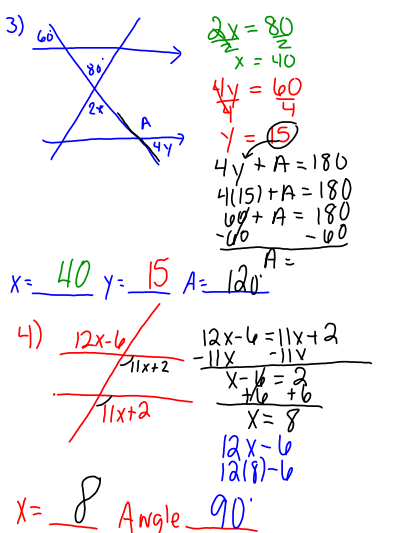
Choose 2 from #5-8

Choose 3 from #10-16

Circle these in red pen, please!

Aug 27-11:43 AM


Quiz Review

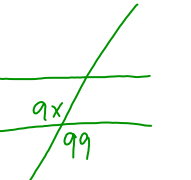


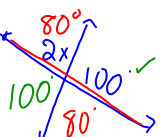
3) $x = 40$, $y = 15$, $A = 120$

4) $x = 8$, Angle 90

Aug 28-12:18 PM


5)  $7x+2+108=180$
 $7x+110=180$
 $-110 -110$
 $7x=70$
 $x=10$

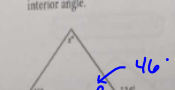
6)  $\frac{9x=99}{9}$
 $x=11$

Bonus:  $2x+100=180$
 $-100 -100$
 $2x=80$
 $x=40$

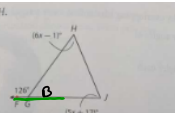
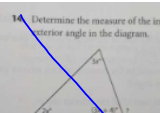
Aug 28-12:24 PM

p278-279 #11-15

11. Find w to find the measure of the exterior angle.  $68+68+a=180$
 $136+a=180$
 $-136 -136$
 $a=44$
 $a+w=180$
 $44+w=180$
 $-44 -44$
 $w=136$

12. Find x to find the measure of the remote interior angle.  $C+134=180$
 $-134 -134$
 $C=46$
 $x+46+46=180$
 $x+92=180$
 $-92 -92$
 $x=88$

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b. Find m∠H.  Determine the measure of the indicated exterior angle in the diagram. 

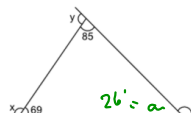
Match each angle with its corresponding measure, given $m\angle 1 = 130^\circ$ and $m\angle 7 = 70^\circ$.

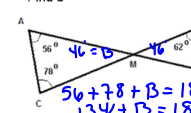
A. $m\angle 2$	a. 50°
B. $m\angle 3$	b. 60°
C. $m\angle 4$	c. 70°
D. $m\angle 5$	d. 110°
E. $m\angle 6$	e. 120°

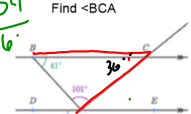
$6x-1+5x+17+b=180$ $12b+b=180$ $130+70+50=180$
 $11x+70=180$ $-70 -70$ $130+70=200$
 $11x=110$ $x=10$ $2a=50$
 $\angle H = 6x-1$
 $\angle H = 59$

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August 29, 2018

















Find z.  $69+85+a=180$
 $154+a=180$
 $-154 -154$
 $a=26$
 $a+z=180$
 $26+z=180$
 $-26 -26$
 $z=154$

Find b.  $56+78+B=180$
 $134+B=180$
 $-134 -134$
 $B=46$
 $46+b+2+B=180$
 $108+B=180$
 $-108 -108$
 $B=72$

Find $\angle BCA$.  $41+101+C=180$
 $142+C=180$
 $-142 -142$
 $C=38$

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Triangle Congruency Manipulative

	Side	Angle	Side	Angle	Hypotenuse
are congruent if...	Side	Angle	Angle	Side	enuse
SSS	Side	Side	Side	Angle	Leg
SAS	SSS	AAS	SAS	ASA	HL
AAS					
ASA					
HL can be used					

Aug 29-10:21 AM

Unit 2 - Similarity Congruence & Proofs

Isosceles triangle - label all parts



Isosceles vocabulary, please define.

Isosceles triangle -

Leg -

Vertex angle -

Base -

Base angle -

Aug 24-10:54 AM

Geometry Name _____ ID: 1
 © 2014 Holt Rinehart and Winston, LLC. All rights reserved. What congruency statement is used (if any)? Date _____ Period _____
 Determine if the two triangles are congruent. If they are, state how you know.

1) SAS

2) AAS ← Reflexive property

3) AAS

4) Not congruent

5) SSS

6) Not congruent

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Aug 24-12:19 PM

7) SSS

8) Not congruent

9) Not congruent

10) HL

11) SSS

12) HL

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13-18 then let me see!

13) SAS

14) AAS

15) SAS

16) ASA

17) NOT CONGRUENT

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18) ASA

State what additional information is required in order to know that the triangles are congruent for the reason given.

19) HL HL

20) SAS SAS

21) HL HL

22) SSS SSS

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August 30, 2018

Determine if the two triangles are congruent. If they are, state how you know.

1) AAS

2) SAS

3) HL

4) HL

5) NOT CONGRUENT

6) SAS

7) NOT CONGRUENT

8) SAS

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Aug 30-7:59 AM

For these fill in any missing statements or reasons.

1. Given: $AB \cong DE$, $\angle B \cong \angle E$, and $\angle A \cong \angle D$

Prove: $\triangle ABC \cong \triangle DEF$

Statements	Reasons
1. $AB \cong DE$	1. Given
2. $\angle B \cong \angle E$	2. Given
3. $\angle A \cong \angle D$	3. Given
4. $\triangle ABC \cong \triangle DEF$	4. ASA

2. Given: $PQ \cong RS$, and $\angle PQS \cong \angle RSQ$

Prove: $\triangle PQS \cong \triangle RSQ$

Statements	Reasons
1. $PQ \cong RS$	1. Given
2. $\angle PQS \cong \angle RSQ$	2. Given
3. $QS \cong QS$	3. Reflexive Property
4. $\triangle PQS \cong \triangle RSQ$	4. SAS

3. Given: $AB \cong DE$, $AC \cong DF$, and $BC \cong EF$

Prove: $\triangle ABC \cong \triangle DEF$

Statements	Reasons
1. $AB \cong DE$	1. Given
2. $AC \cong DF$	2. Given
3. $BC \cong EF$	3. Given
4. $\triangle ABC \cong \triangle DEF$	4. SSS

4. Given: $\angle L \cong \angle N$, $\angle LOM \cong \angle NMO$

Prove: $\triangle LMO \cong \triangle NMO$

Statements	Reasons
1. $\angle L \cong \angle N$	1. Given
2. $\angle LOM \cong \angle NMO$	2. Given
3. $MO \cong MO$	3. Reflexive Property
4. $\triangle LMO \cong \triangle NMO$	4. AAS

5. _____

6. _____

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Aug 30-8:04 AM

SK CL
Given: \overline{AE} bisects \overline{BD} , $\angle A \cong \angle E$

Prove: $\triangle ABC \cong \triangle EDC$

Statements	Reasons
1. $\angle A \cong \angle E$	1. Given
2. $\overline{AC} \cong \overline{EC}$	2. Definition of Bisect
3. $\angle B \cong \angle D$	3. Vertical Angles
4. $\triangle ABC \cong \triangle EDC$	4. ASA

AO AM
Given: $\overline{PQ} \parallel \overline{ST}$, $\overline{PR} \cong \overline{TR}$

Prove: $\triangle PQR \cong \triangle TSR$

Statements	Reasons
1. $\overline{PR} \cong \overline{TR}$	1. Given
2. $\angle P \cong \angle T$	2. Alternate Interior Angles
3. $\angle Q \cong \angle S$	3. Alternate Interior Angles
4. $\triangle PQR \cong \triangle TSR$	4. ASA

MM
Given: $\overline{LM} \cong \overline{NO}$, and $\angle M \cong \angle O$

Prove: $\triangle MPL \cong \triangle NPO$

Statements	Reasons
1. $\overline{LM} \cong \overline{NO}$	1. Given
2. $\angle M \cong \angle O$	2. Given
3. $\angle L \cong \angle N$	3. Reflexive Property
4. $\triangle MPL \cong \triangle NPO$	4. AAS

AO AM
Given: \overline{MN} is the midpoint of \overline{MO} , $\overline{LM} \cong \overline{OP}$, and $\overline{LN} \cong \overline{PN}$

Prove: $\triangle LMN \cong \triangle PON$

Statements	Reasons
1. $\overline{LN} \cong \overline{PN}$	1. Given
2. $\overline{LM} \cong \overline{OP}$	2. Given
3. N is the Midpoint of \overline{MO}	3. Given
4. $\overline{MN} \cong \overline{NO}$	4. Midpoint
5. $\triangle LMN \cong \triangle PON$	5. SSS

AO AM
Given: C is the midpoint of \overline{BE} , $\angle B \cong \angle E$, and $\overline{AB} \cong \overline{DE}$

Prove: $\triangle ABC \cong \triangle DEC$

Statements	Reasons
1. $\angle B \cong \angle E$	1. Given
2. $\overline{AB} \cong \overline{DE}$	2. Given
3. C is the Midpoint of \overline{BE}	3. Given
4. $\overline{BC} \cong \overline{EC}$	4. Midpoint
5. $\triangle ABC \cong \triangle DEC$	5. SAS

AO AM
Given: \overline{QT} bisects \overline{SR} , \overline{SP} bisects \overline{QT}

Prove: $\triangle QRP \cong \triangle SPT$

Statements	Reasons
1. $\overline{QP} \cong \overline{SP}$	1. Given
2. \overline{SR} bisected at P	2. Given
3. $\overline{QR} \cong \overline{ST}$	3. Definition of Bisect
4. $\overline{QP} \cong \overline{SP}$	4. Midpoint
5. $\angle QRP \cong \angle SPT$	5. Vertical Angles
6. $\triangle QRP \cong \triangle SPT$	6. SAS

Aug 30-8:04 AM

Aug 30-8:04 AM

STUDY GUIDE

Geometry Name _____
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 Triangle Congruence

State if the two triangles are congruent. If they are, state how you know.

- ASA
- SSS
- NOT CONGRUENT
- NOT CONGRUENT
- AAS
- HL
- ASA
- AAS

Aug 30-8:06 AM

9) HL
 Write the congruence Statement: $\triangle CDE \cong \triangle CAB$

10) SSS
 Write the congruence Statement: $\triangle LMC \cong \triangle PEC$
 $\triangle MCL \cong \triangle CEP$

Aug 30-8:06 AM

Geometry, Unit 5 - Congruent Triangles Proof Activity - Part I Name _____

For each problem, do the following:

- Show the given information in the diagram (using tick marks to show congruent sides and arcs to show congruent angles)
- Show any other congruent parts you notice (from vertical angles, sides shared in common, or alternate interior angles with parallel lines)
- Give the postulate or theorem that proves the triangles congruent (SSS, SAS, ASA, AAS, HL)
- Finally, fill in the blanks to complete the proof.

1. Given: $\overline{BC} \cong \overline{DC}$; $\overline{AC} \cong \overline{EC}$
 Prove: $\triangle BCA \cong \triangle DCE$

Statements	Reasons
1. $\overline{BC} \cong \overline{DC}$, $\overline{AC} \cong \overline{EC}$	1. Given
2. $\angle BCD \cong \angle ACE$	2. Vertical Angles Theorem
3. $\triangle BCA \cong \triangle DCE$	3. SAS

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August 31, 2018

2. Given: $\overline{JK} \cong \overline{LK}$; $\overline{JM} \cong \overline{LM}$
 Prove: $\triangle KJM \cong \triangle LKM$

Statements	Reasons
1. $\overline{JK} \cong \overline{LK}$, $\overline{JM} \cong \overline{LM}$	1. Given
2. $\overline{KM} \cong \overline{KM}$	2. Reflexive Prop.
3. $\triangle KJM \cong \triangle LKM$	3. SSS

Aug 30-8:09 AM

3. Given: $\angle G \cong \angle I$; \overline{FH} bisects $\angle GFI$
 Prove: $\triangle GFH \cong \triangle IFH$

cuts in $\frac{1}{2}$

Statements	Reasons
1. $\angle G \cong \angle I$; \overline{FH} bisects $\angle GFI$	1. Given
2. $\angle GFH \cong \angle IFH$	2. Def. of bisector
3. $\overline{FH} \cong \overline{FH}$	3. Reflexive Prop.
4. $\triangle GFH \cong \triangle IFH$	4. AAS

Aug 31-8:06 AM

Quiz

Choose 4 #1-7
 Choose 1 #8-9
 Choose 1 #10-11

Bonus: MODIFIED (do not answer the proof)
 How can these triangles be proved congruent?
 Write the congruency statement for the triangle.

Aug 31-11:57 AM

p 286

Copy Equilateral Triangle Theorem & Converse of the Equilateral Triangle Theorem.

Aug 24-10:57 AM

Blank page for notes or answers.

Aug 29-1:37 PM

Geometry Name _____ ID: 1
 Finding side & angles of isosceles and equilateral triangles
 Find the value of x.

1)

2)

3)

4)

5)

6)

7)

8)

9)

10)

Aug 24-11:10 AM

11)

12)

13)

14)

15)

16)

17)

18)

19)

20)

Aug 24-11:10 AM

p203

copy ASA triangle congruence theorem

Aug 24-11:11 AM

p206 #3-6

Determine whether the triangles are congruent. Explain your reasoning.

Determine whether the triangles are congruent. Explain your reasoning.

Aug 24-11:40 AM

p213 copy the SAS triangle congruence theorem

Aug 24-12:26 PM

p216 #2-7

Determine whether the triangles are congruent. Explain your reasoning.

Find the value of the variable that results in congruent triangles. Explain.

Aug 24-12:27 PM

p222

copy SSS triangle congruence

Aug 24-12:06 PM

p227 #4-11

Identify a sequence of rigid motions that maps one side of $\triangle ABC$ onto one side of $\triangle DEF$.

In each figure, identify the perpendicular bisector and the line segment it bisects, and explain how to use the information to show that the two triangles are congruent.

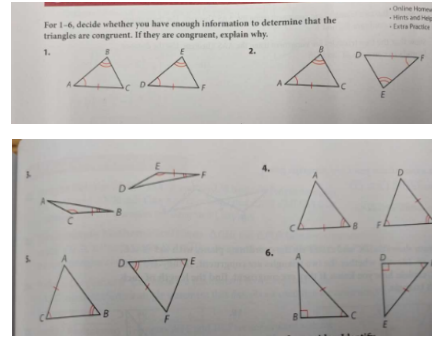
Prove that the triangles are congruent or explain why this is not possible.

Aug 24-12:07 PM

p246 copy the AAS congruence statement

Aug 24-12:10 PM

p 250 #1-6

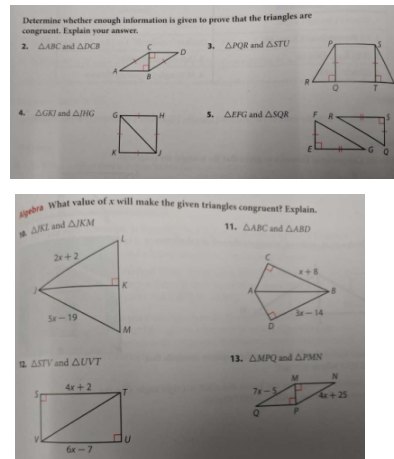


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p256 copy HL congruence theorem

Aug 24-12:14 PM

p258 2-5, 10-13



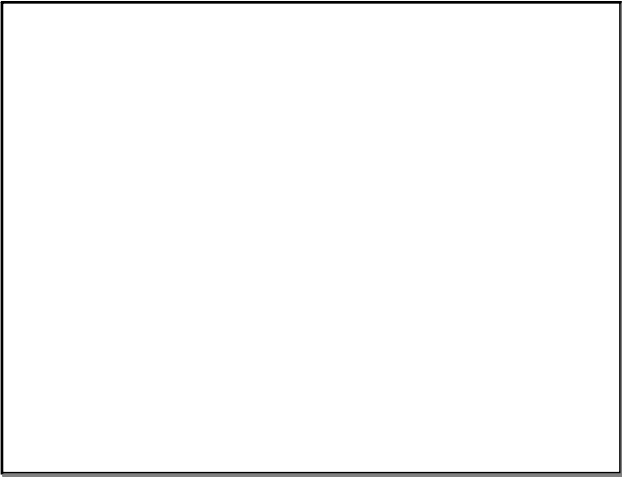
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Study Guide

Aug 24-12:20 PM

Test

Aug 24-12:20 PM



Aug 24-12:25 PM