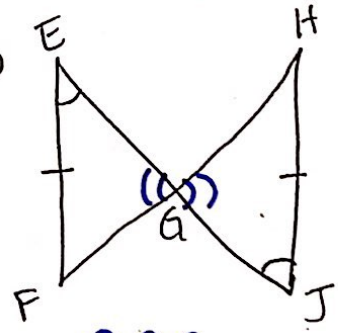
Name _____

Date _____ Period _____

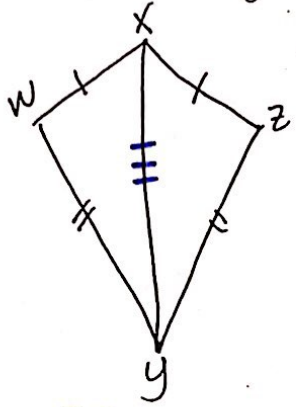
Geometry
Ch. 4|5 Review

Decide whether it is possible to prove the triangles are ≅. If possible, state the postulate that makes them ≅. Write a congruency statement if the triangles are ≅.

① 

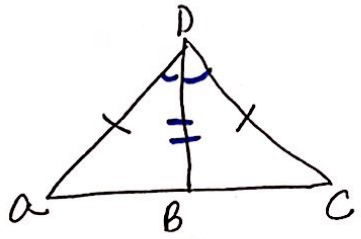
AAS

△FEG ≅ △HJG

② 

SSS

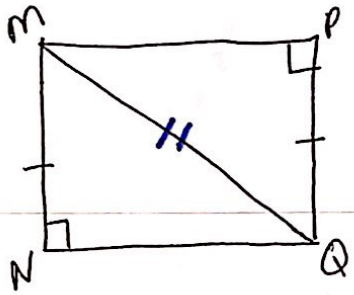
△XWY ≅ △XZY

③ 

given: $\overline{BD}$ bisects ∠ADC

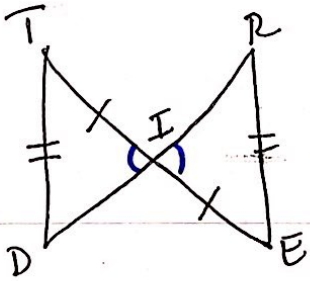
SAS

△ADB ≅ △CDB

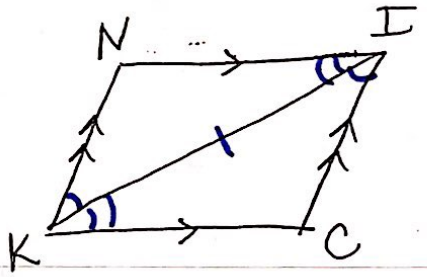
④ 

HL

△MNQ ≅ △QPM

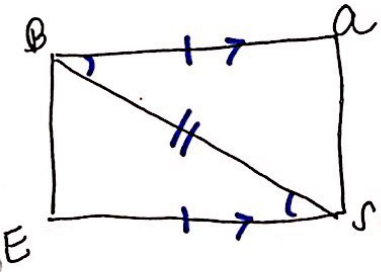
⑤ 

Not ≅

⑥ 

ASA

△NKI ≅ △CIK

⑦ 

given: $\overline{BA} \cong \overline{SE}$
$\overline{BA} \parallel \overline{SE}$

prove: △ESB ≅ △ABS

Statements	Reasons
① $\overline{BA} \cong \overline{SE}$	① Given
② $\overline{BA} \parallel \overline{SE}$	② Given
③ ∠ABS ≅ ∠ESB	③ if ∥, alt int ∠'s ≅
④ $\overline{BS} \cong \overline{BS}$	④ Reflexive
⑤ △ESB ≅ △ABS	⑤ SAS

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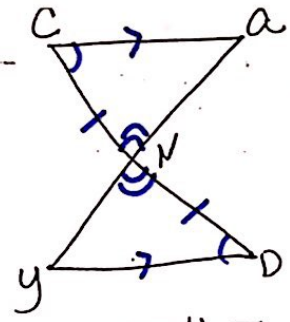

iven: $\overline{CA} \parallel \overline{DY}$

N is midpt of $\overline{CD}$

ove: $\triangle CAN \cong \triangle DYN$

statements	Reason
① $\overline{CA} \parallel \overline{DY}$	① Given
② $\angle C \cong \angle D$	② if ∥, alt int ∠'s ≅
③ N is mp of $\overline{CD}$	③ given
④ $\overline{CN} \cong \overline{DN}$	④ def of m.p.
⑤ $\angle CNA \cong \angle DNY$	⑤ vertical ∠'s are ≅
⑥ $\triangle CAN \cong \triangle DYN$	⑥ ASA

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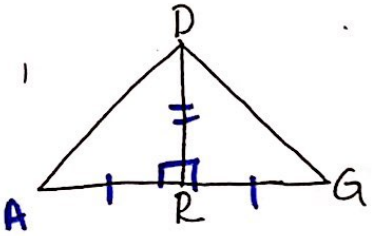

iven: $\overline{RA} \cong \overline{RG}$

$\angle ARD$ and $\angle GRD$ are right ∠'s

ove: $\triangle ARD \cong \triangle GRD$

statements	Reasons
① $\overline{RA} \cong \overline{RG}$	① Given
② $\angle ARD$ and $\angle GRD$ are right ∠'s	② Given
③ $\angle ARD \cong \angle GRD$	③ all right ∠'s are ≅
④ $\overline{DR} \cong \overline{DR}$	④ reflexive
⑤ $\triangle ARD \cong \triangle GRD$	⑤ SAS

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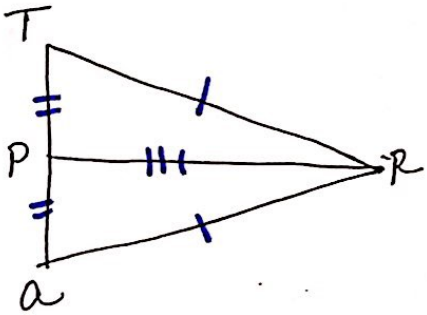


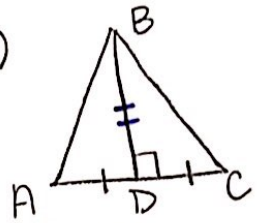
iven: $\overline{TR} \cong \overline{AR}$

P is midpt of $\overline{TA}$

ve: $\triangle TRP \cong \triangle ARP$

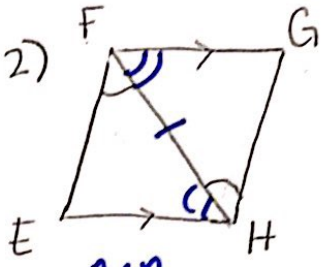
statements	Reasons
① $\overline{TR} \cong \overline{AR}$	① Given
② P is mp of $\overline{TA}$	② Given
③ $\overline{TP} \cong \overline{AP}$	③ def of mp.
④ $\overline{PR} \cong \overline{PR}$	④ reflexive
⑥ $\triangle TRP \cong \triangle ARP$	⑤ SSS

Name the postulate or theorem used to prove the triangles $\cong$. If none can be used, say none. Write a triangle congruency statement if the triangles are $\cong$.

11) 

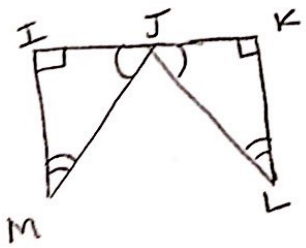
SAS

$\triangle ADB \cong \triangle CDB$

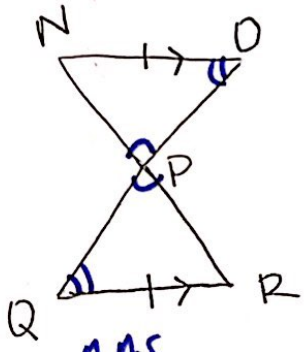
12) 

ASA

$\triangle FEH \cong \triangle HGF$

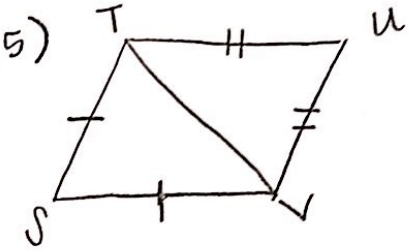
13) 

Not $\cong$

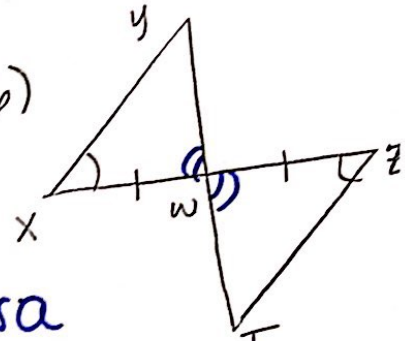
14) 

AAS

$\triangle NOP \cong \triangle RQP$

15) 

Not $\cong$

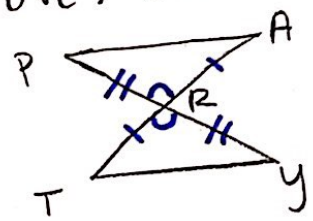
16) 

asa

$\triangle yxw \cong \triangle TzW$

17) Given: R is the midpt of $\overline{AT}$ & $\overline{PY}$

Prove: $\angle T \cong \angle A$

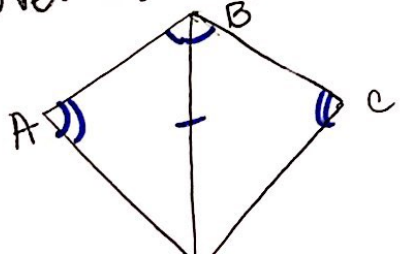


Statements	Reasons
① R is mp of $\overline{AT}$ & $\overline{PY}$	① Given
② $\overline{AR} \cong \overline{TR}$	② def of mp
③ $\overline{PR} \cong \overline{yR}$	③ def of mp
④ $\angle PRA \cong \angle yRT$	④ vertical $\angle$'s $\cong$
⑤ $\triangle PRA \cong \triangle yRT$	⑤ SAS
⑥ $\angle T \cong \angle A$	⑥ CPCTC

18) Given: $\overline{DB}$ bisects $\angle ABC$

$\angle A \cong \angle C$

Prove: $\overline{AD} \cong \overline{CD}$



Statements	Reasons
① $\overline{DB}$ bisects $\angle ABC$	① Given
② $\angle ABD \cong \angle CBD$	② def of $\angle$ bisector
③ $\angle A \cong \angle C$	③ Given
④ $\overline{BD} \cong \overline{BD}$	④ Reflexive
⑤ $\triangle ABD \cong \triangle CBD$	⑤ AAS
⑥ $\overline{AD} \cong \overline{CD}$	⑥ CPCTC

19) What method of Δ congruency only works with right Δs? HL

20) If $\Delta BAD \cong \Delta TOP$, then $\overline{DB} \cong \overline{PT}$ and $\Delta PTO \cong \Delta DBA$.

21) List the 4 transformations. Which ones produce Congruent figures? which one produces similar figures?

translations → congruent
reflections → congruent
rotations → congruent
dilations → similar

Justify the following statements.

22) $\overline{AB} \cong \overline{BA}$ reflexive

23) If $\angle A \cong \angle B$ & $\angle B \cong \angle C$, then $\angle A \cong \angle C$. transitive

24) If $x=4$ & $3x=y$, then $3(4)=y$. substitution

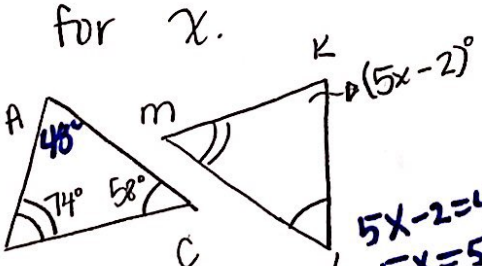
25) If $x=y$, then $x-6=y-6$. subtraction

26) If $\overline{AB} \cong \overline{CD}$, then $\overline{CD} \cong \overline{AB}$. symmetric

27) $5(x-6)=5x-30$ distributive

Solve for x.

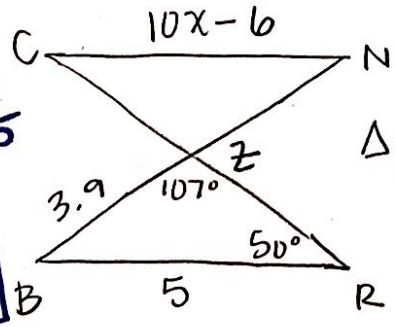
28)



$\Delta ABC \cong \Delta KML$

$5X-2=48$
$5X=50$
$X=10$

29)



$10X-6=5$
$10X=11$
$X=\frac{11}{10}$

$\Delta CNZ \cong \Delta RBZ$

30) If $\Delta XWY \cong \Delta MNO$, $MN=3x$, $OM=45$, & $XY=5x-36$.

$5X-36=45$
$5X=81$
$X=81/5$