ASA Triangle Congruence Postulate

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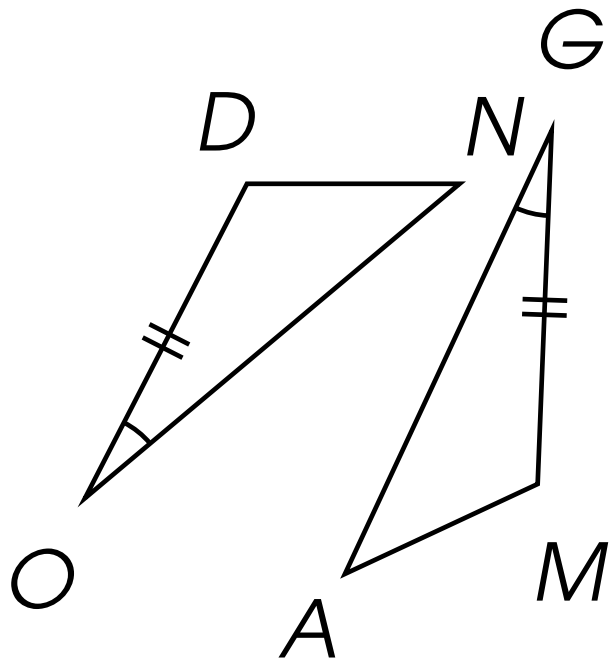
Sauyo High School

ASA (Side-Angle-Side) Congruence Postulate

If the two angles and the included side of one triangle are congruent to the corresponding two angles and an included side of another triangle, then the triangles are congruent.

Example 1

Complete the statements using the ASA congruence postulate.



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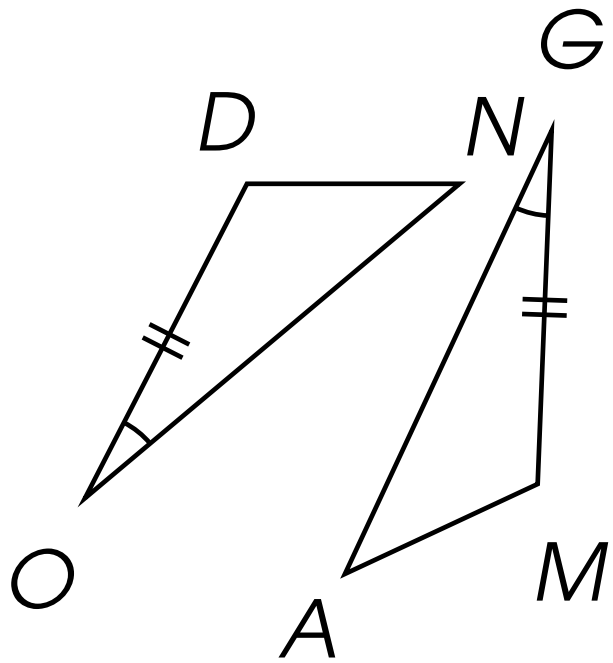

$\overline{DO} \cong$

Example 1

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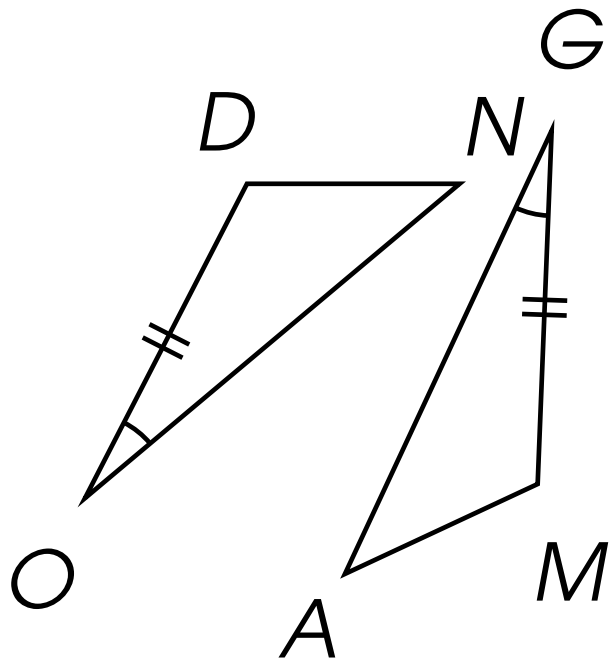

$\overline{DO} \cong \overline{MG}$

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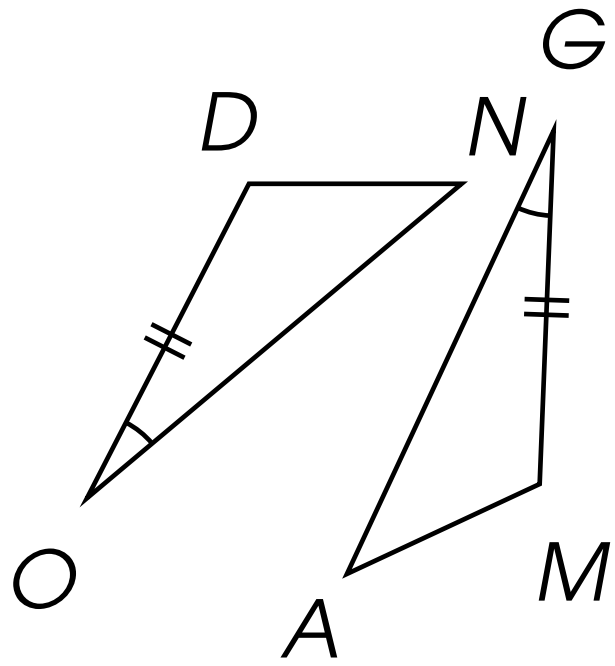

$\overline{DO} \cong \overline{MG}$

$\angle O \cong$

Example 1

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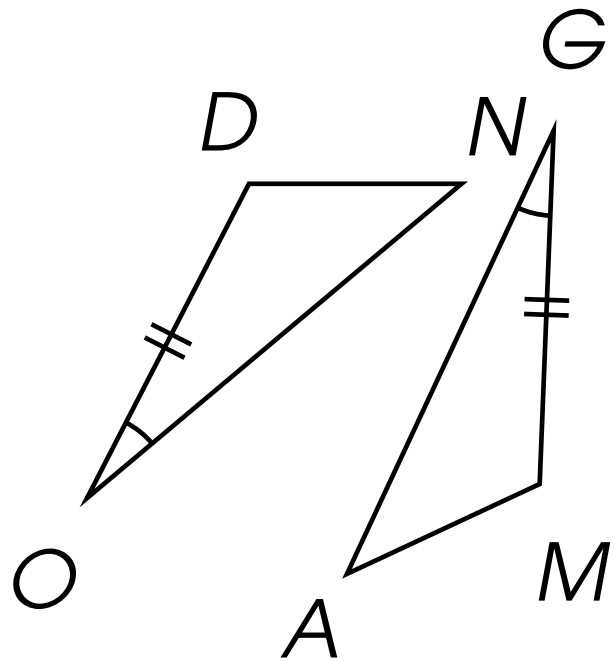

$\overline{DO} \cong \overline{MG}$

$\angle O \cong \angle G$

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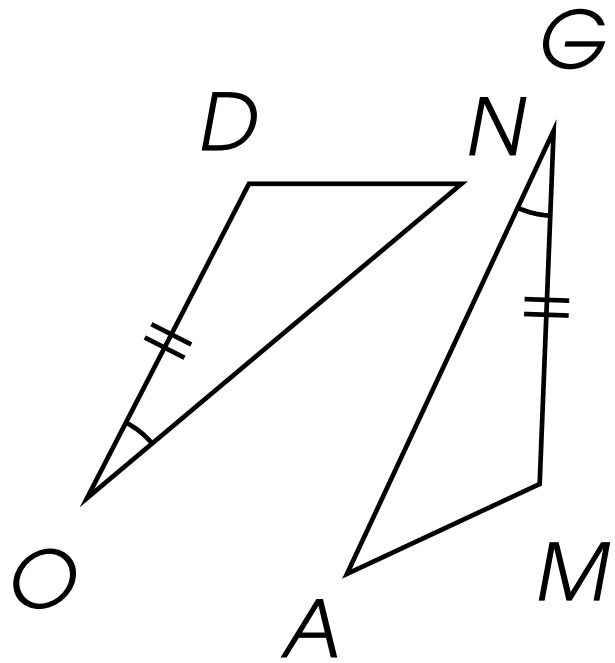

$\overline{DO} \cong \overline{MG}$

$\angle O \cong \angle G$

$\angle D \cong$

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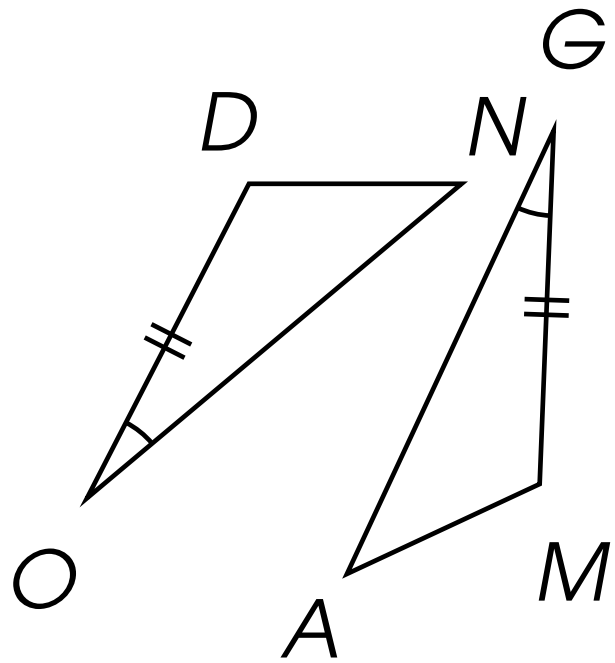

$\overline{DO} \cong \overline{MG}$

$\angle D \cong \angle M$

$\angle O \cong \angle G$

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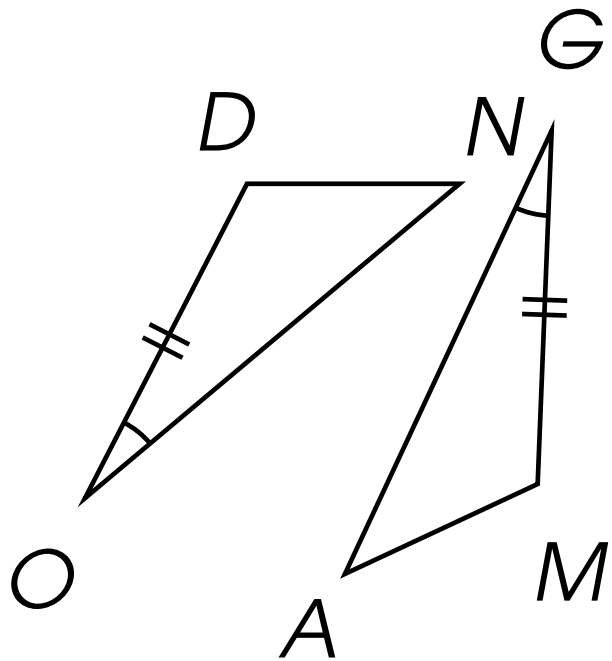

$\overline{DO} \cong \overline{MG}$

$\angle O \cong \angle G$

$\angle D \cong \angle M$

$\triangle DON \cong$

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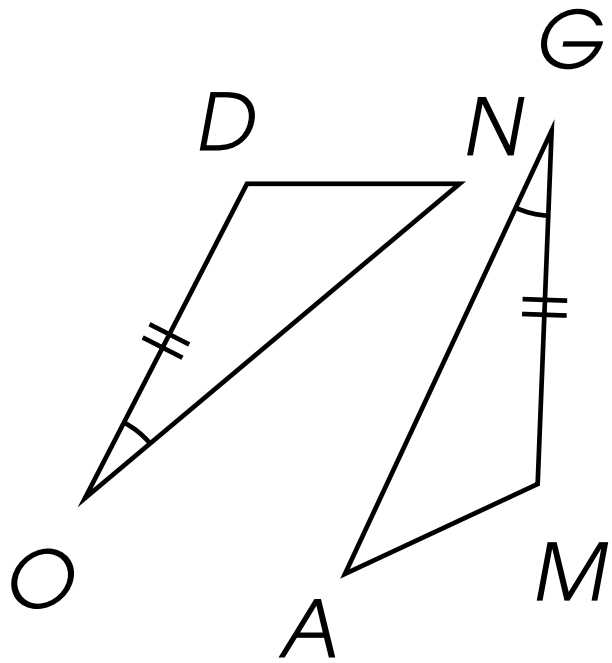


$\overline{DO} \cong \overline{MG}$

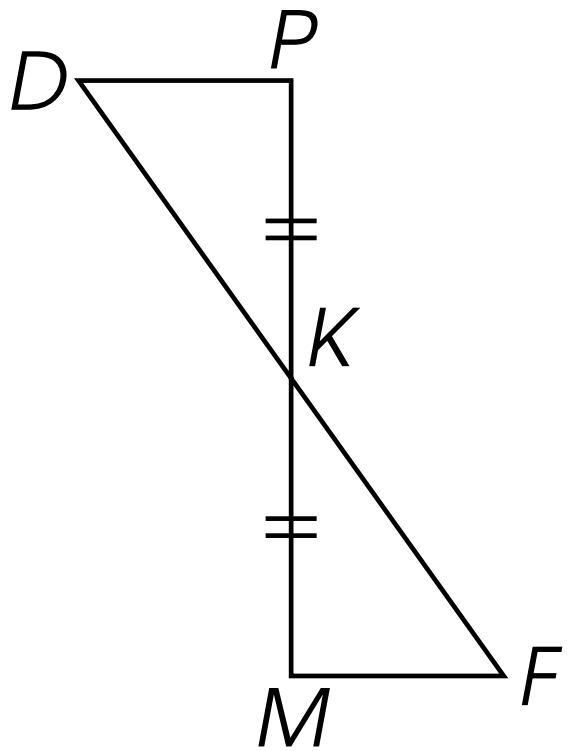
$\angle O \cong \angle G$

$\angle D \cong \angle M$

$\triangle DON \cong \triangle MGA$

Example 2

Complete the statements using the ASA congruence postulate.



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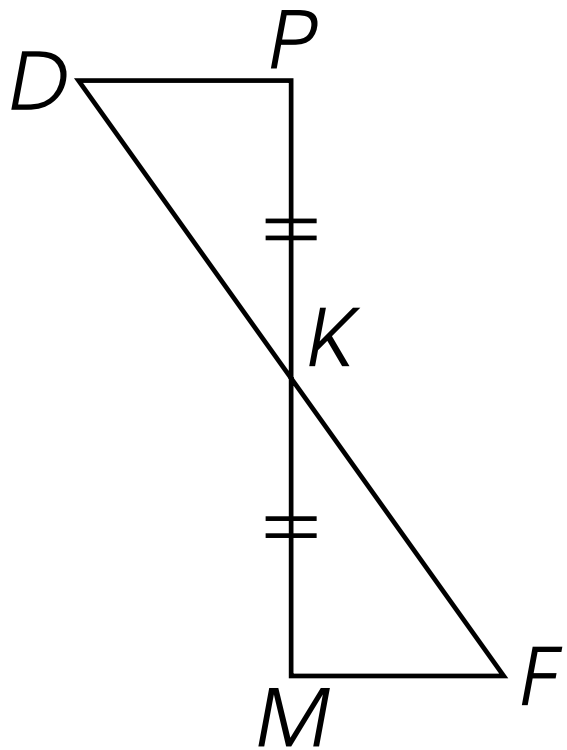
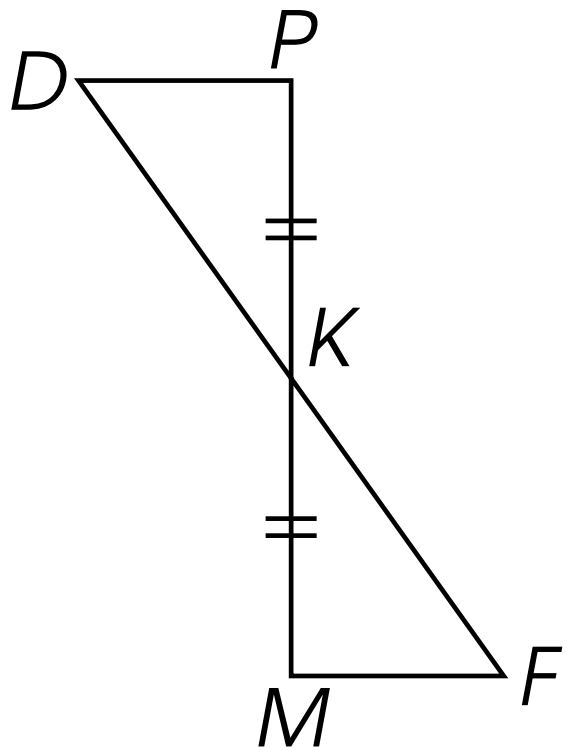


$\overline{PK} \cong$

Example 2

Complete the statements using the ASA congruence postulate.



$\overline{PK} \cong \overline{MK}$

Example 2

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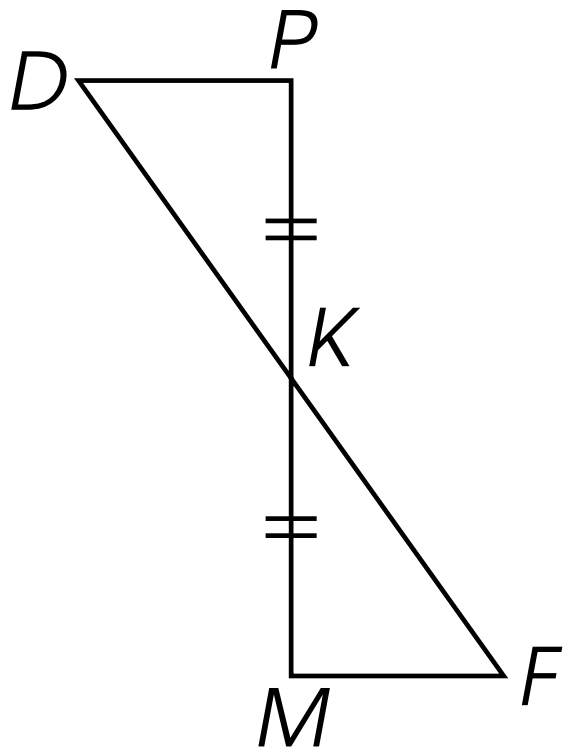

$\overline{PK} \cong \overline{MK}$

$\angle DKP \cong$

Example 2

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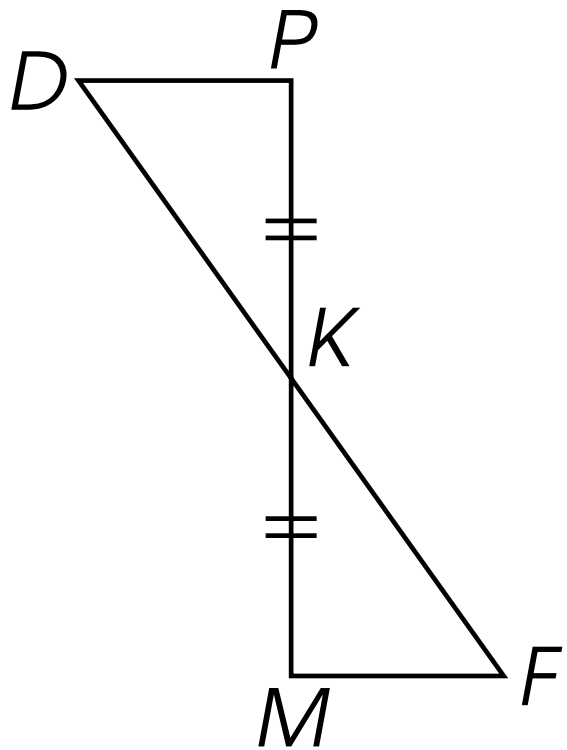

$\overline{PK} \cong \overline{MK}$

$\angle DKP \cong \angle FKM$

Example 2

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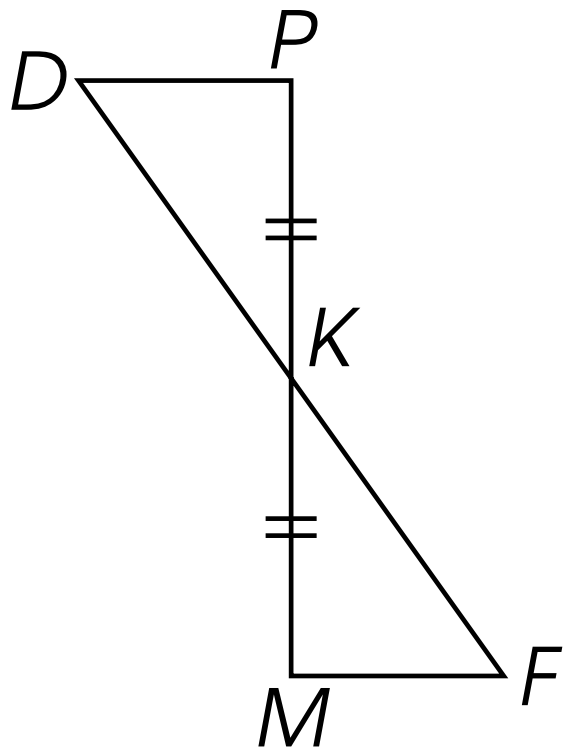

$\overline{PK} \cong \overline{MK}$

$\angle D \cong$

$\angle DKP \cong \angle FKM$

Example 2

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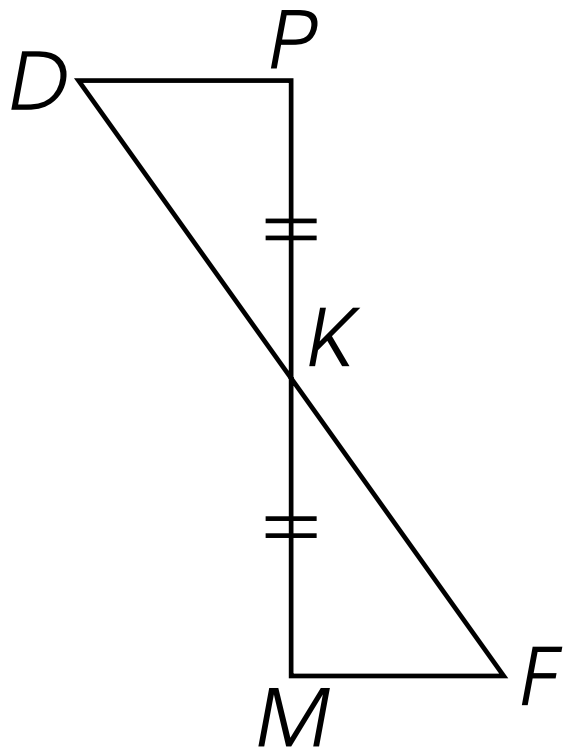

$\overline{PK} \cong \overline{MK}$

$\angle D \cong \angle F$

$\angle DKP \cong \angle FKM$

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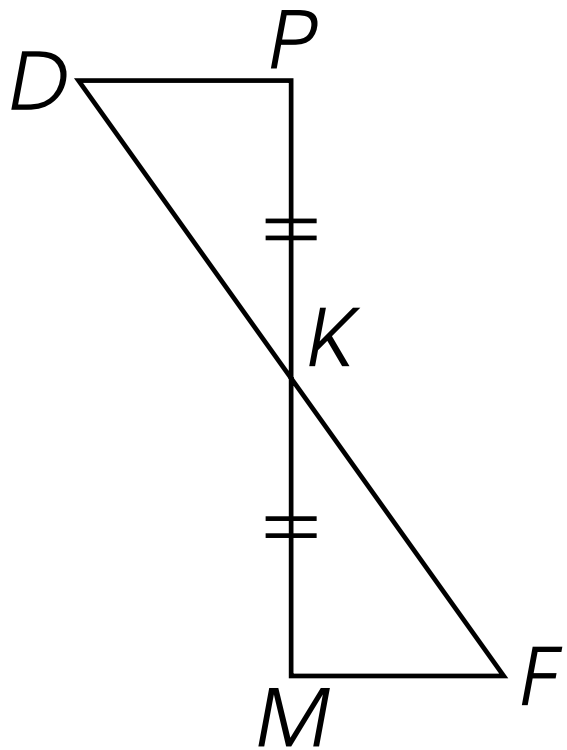
Complete the statements using the ASA congruence postulate.



$\overline{PK} \cong \overline{MK}$

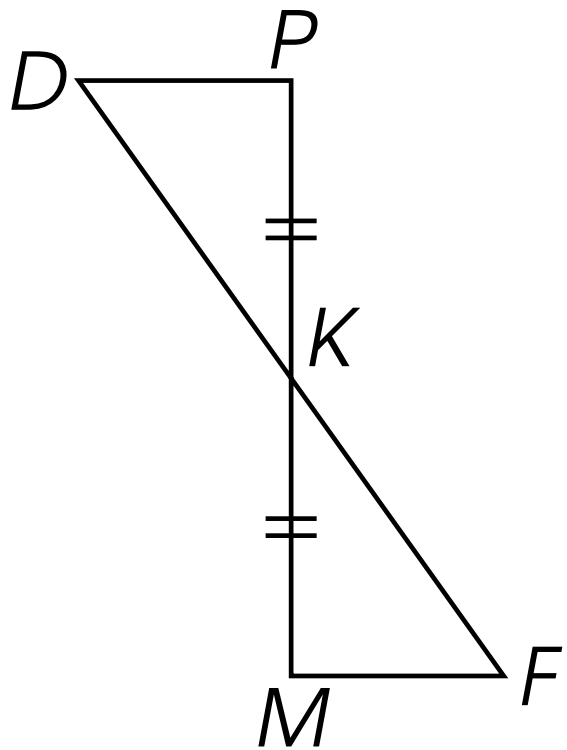
$\angle D \cong \angle F$

$\angle DKP \cong \angle FKM$

$\triangle DKP \cong$

Example 2

Complete the statements using the ASA congruence postulate.



$\overline{PK} \cong \overline{MK}$

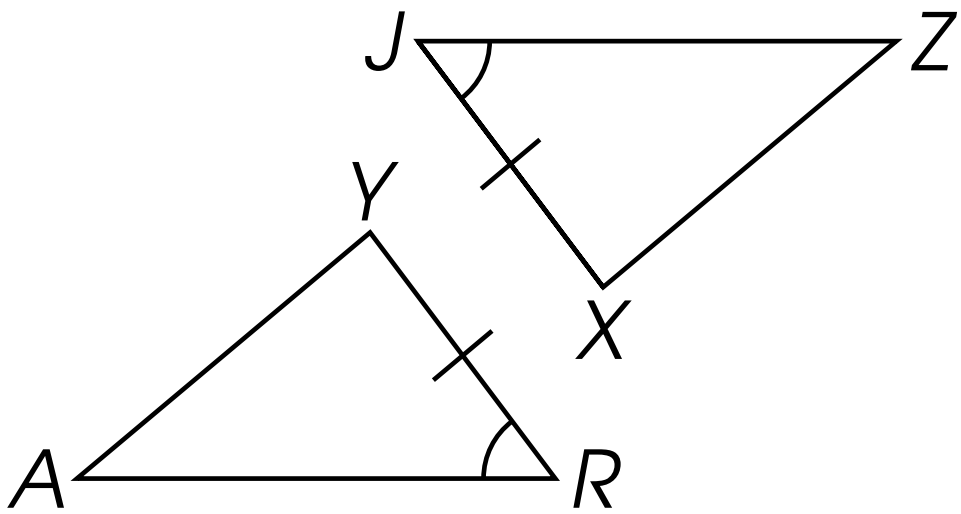
$\angle DKP \cong \angle FKM$

$\angle D \cong \angle F$

$\triangle DKP \cong \triangle FKM$

Example 3

Complete the statements using the ASA congruence postulate.



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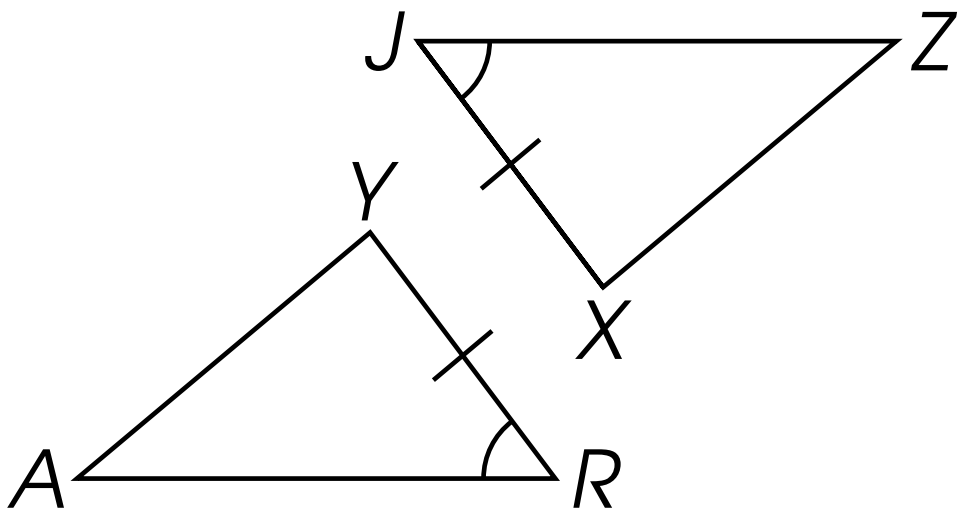

$\overline{YR} \cong$

Example 3

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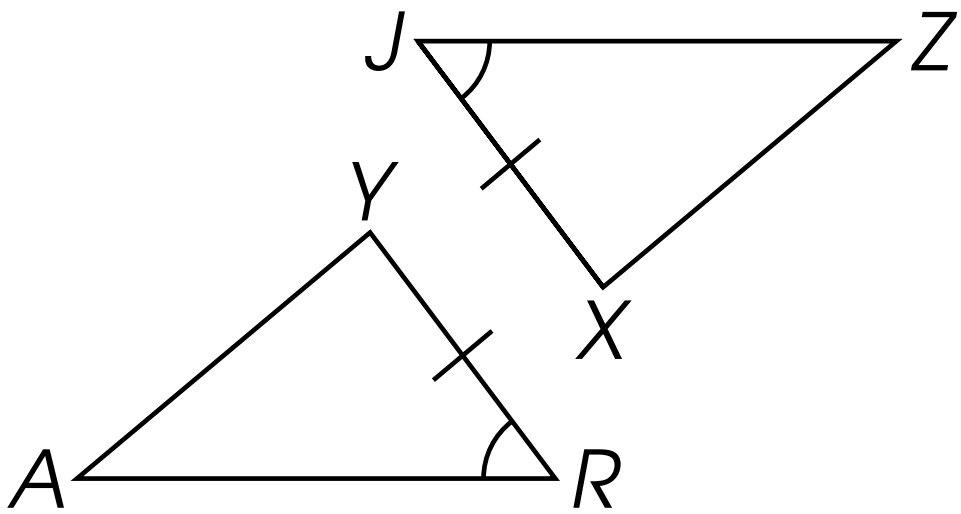

$\overline{YR} \cong \overline{XJ}$

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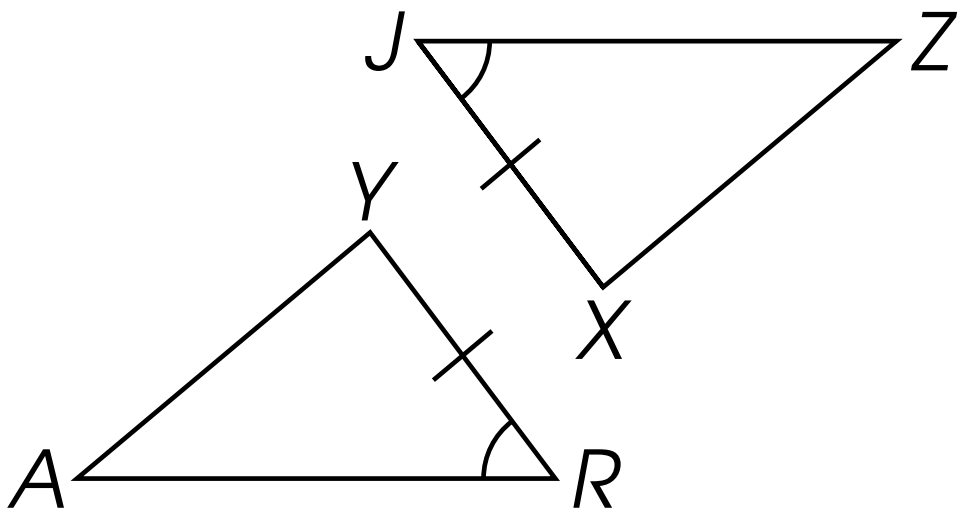

$\overline{YR} \cong \overline{XJ}$

$\angle R \cong$

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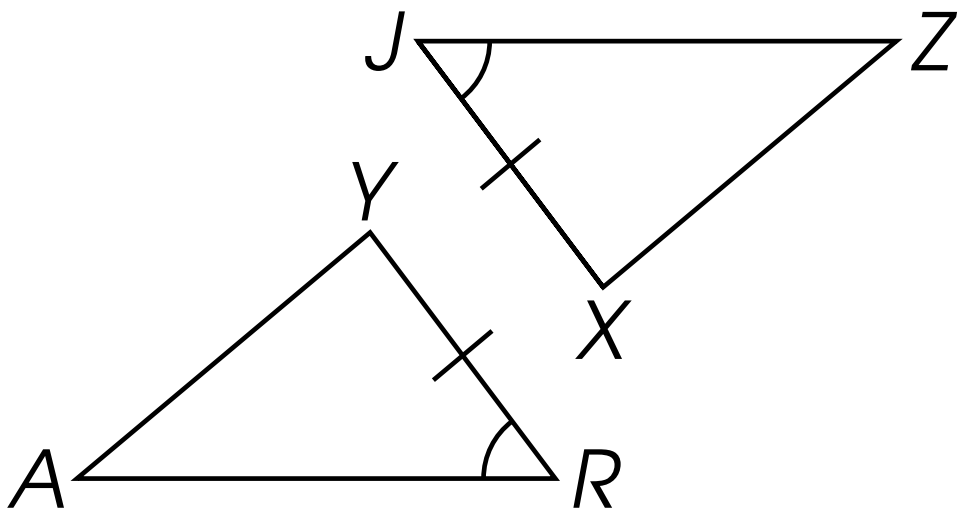

$\overline{YR} \cong \overline{XJ}$

$\angle R \cong \angle J$

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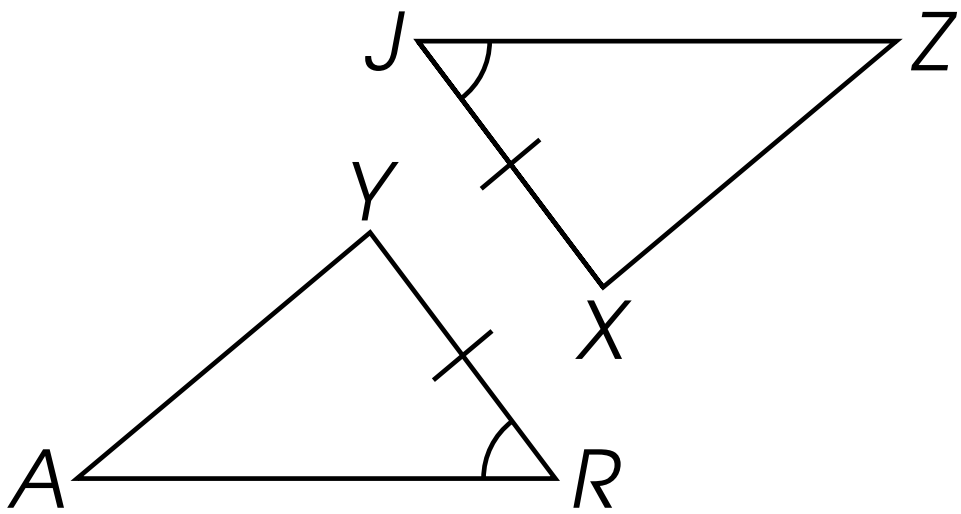

$\overline{YR} \cong \overline{XJ}$

$\angle Y \cong$

$\angle R \cong \angle J$

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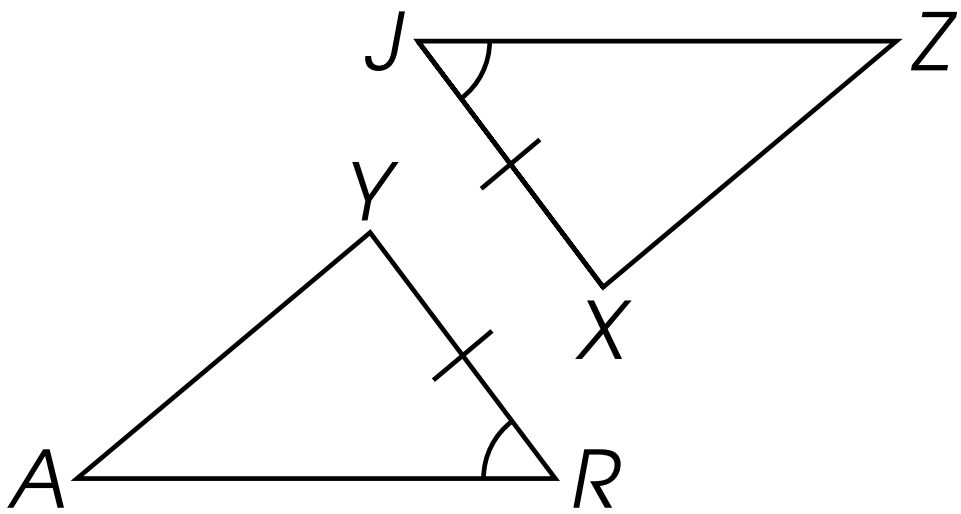

$\overline{YR} \cong \overline{XJ}$

$\angle Y \cong \angle X$

$\angle R \cong \angle J$

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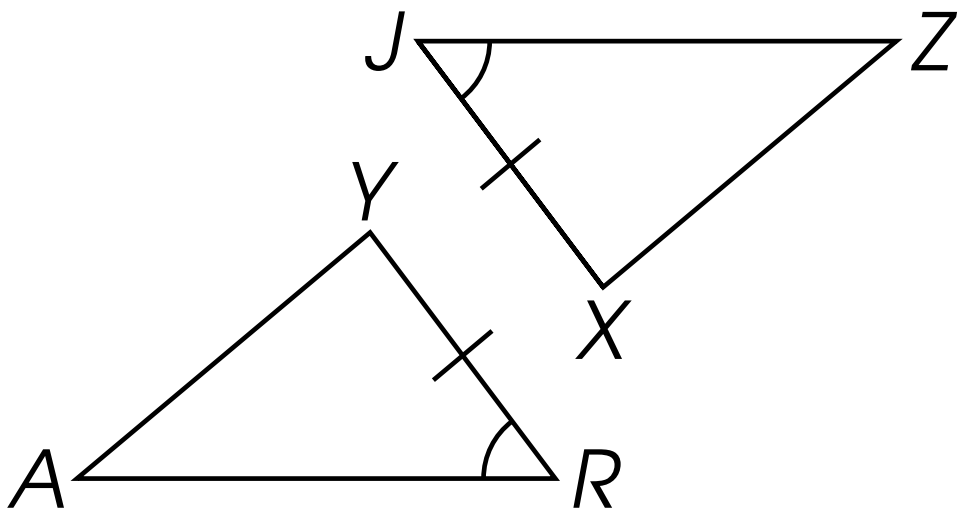

$\overline{YR} \cong \overline{XJ}$

$\angle Y \cong \angle X$

$\angle R \cong \angle J$

$\triangle AYR \cong$

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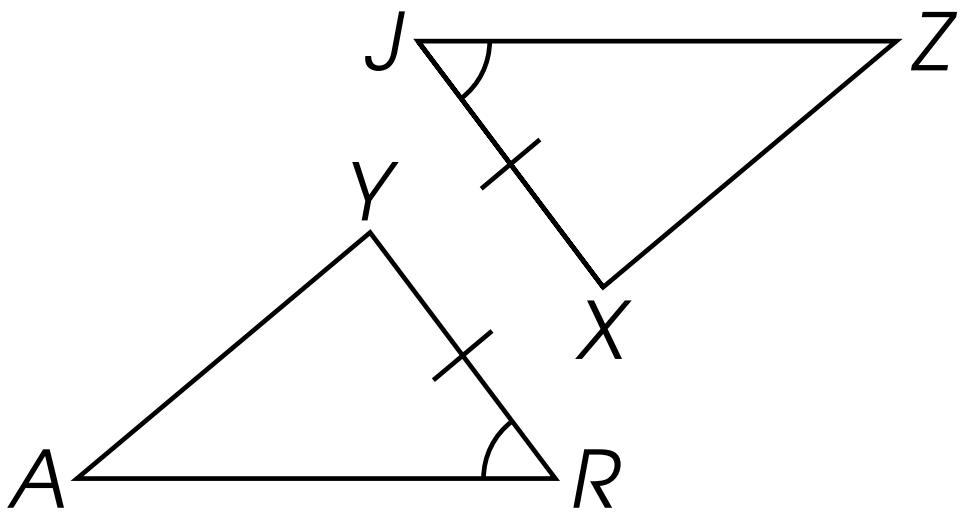


$\overline{YR} \cong \overline{XJ}$

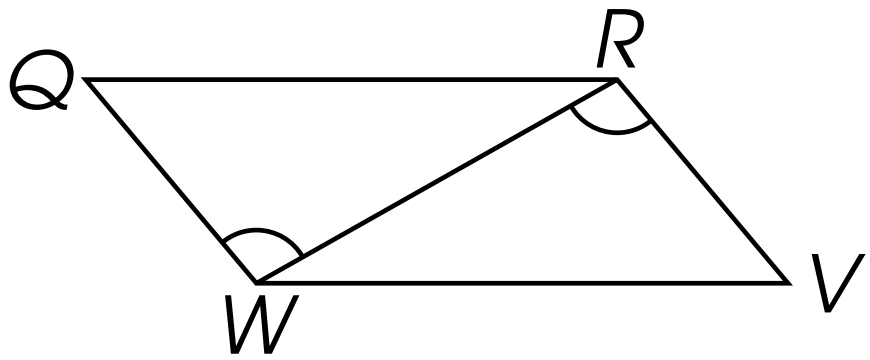
$\angle R \cong \angle J$

$\angle Y \cong \angle X$

$\triangle AYR \cong \triangle ZXJ$

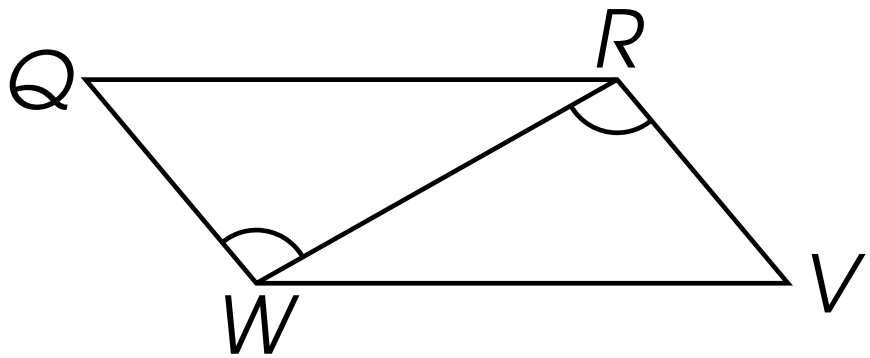
Example 4

Complete the statements using the ASA congruence postulate.



Example 4

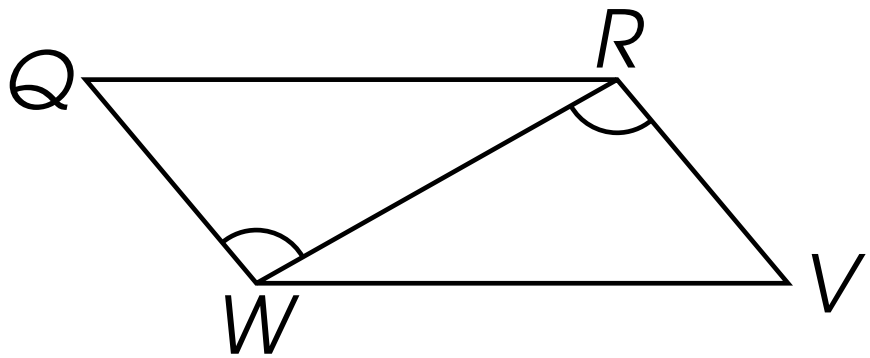
Complete the statements using the ASA congruence postulate.



$\overline{RW} \cong$

Example 4

Complete the statements using the ASA congruence postulate.



$\overline{RW} \cong \overline{WR}$

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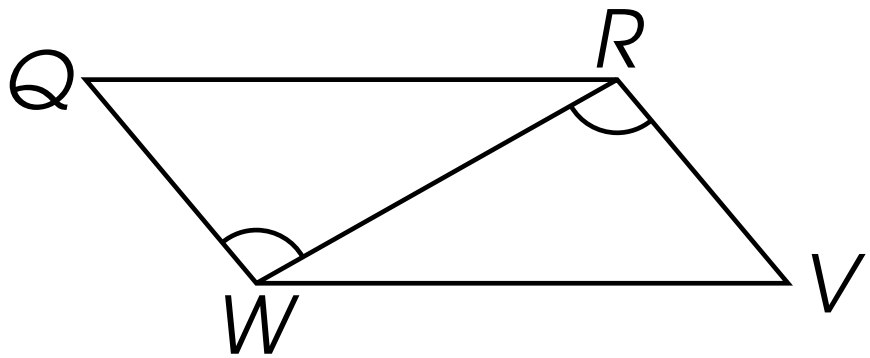

$\overline{RW} \cong \overline{WR}$

$\angle RWQ \cong$

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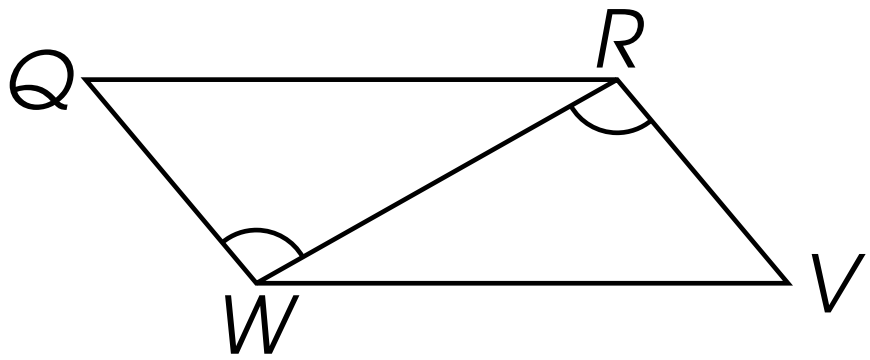

$\overline{RW} \cong \overline{WR}$

$\angle RWQ \cong \angle WRV$

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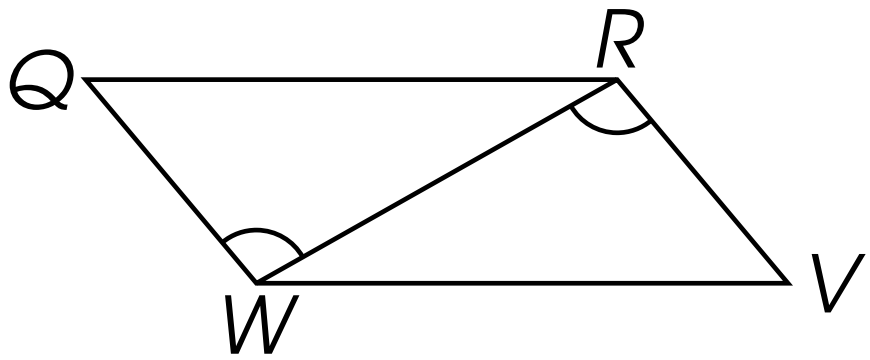

$\overline{RW} \cong \overline{WR}$

$\angle QRW \cong$

$\angle RWQ \cong \angle WRV$

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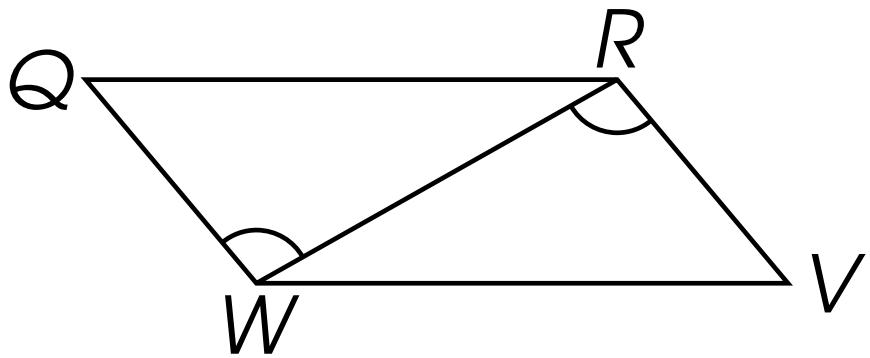

$\overline{RW} \cong \overline{WR}$

$\angle QRW \cong \angle VWR$

$\angle RWQ \cong \angle WRV$

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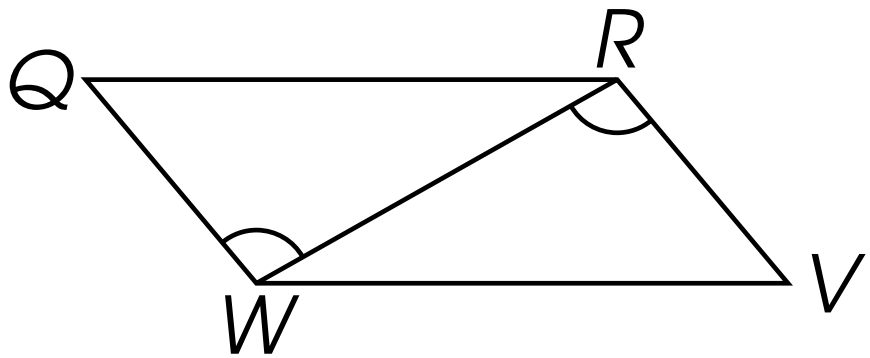

$\overline{RW} \cong \overline{WR}$

$\angle RWQ \cong \angle WRV$

$\angle QRW \cong \angle VWR$

$\triangle QRW \cong$

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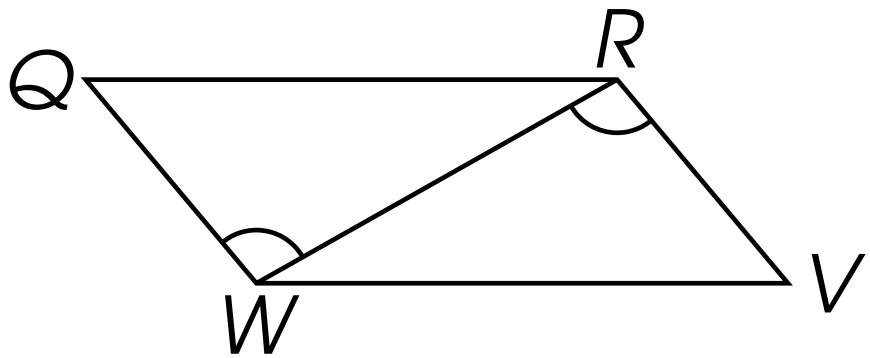


$\overline{RW} \cong \overline{WR}$

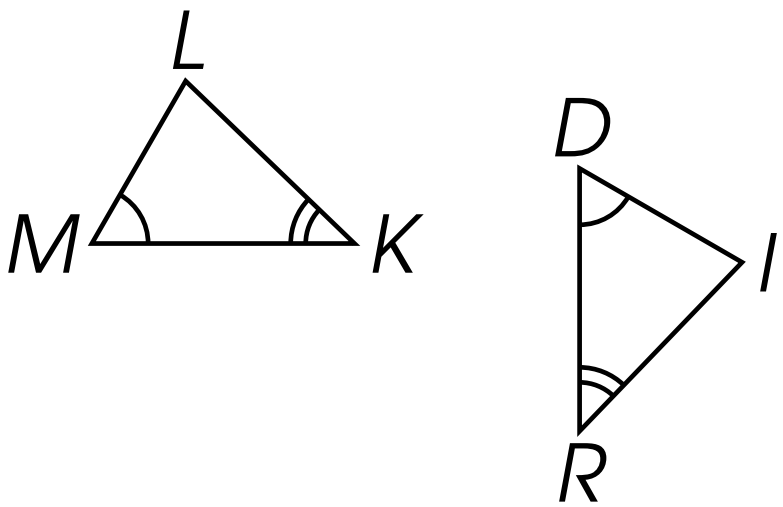
$\angle RWQ \cong \angle WRV$

$\angle QRW \cong \angle VWR$

$\triangle QRW \cong \triangle VWR$

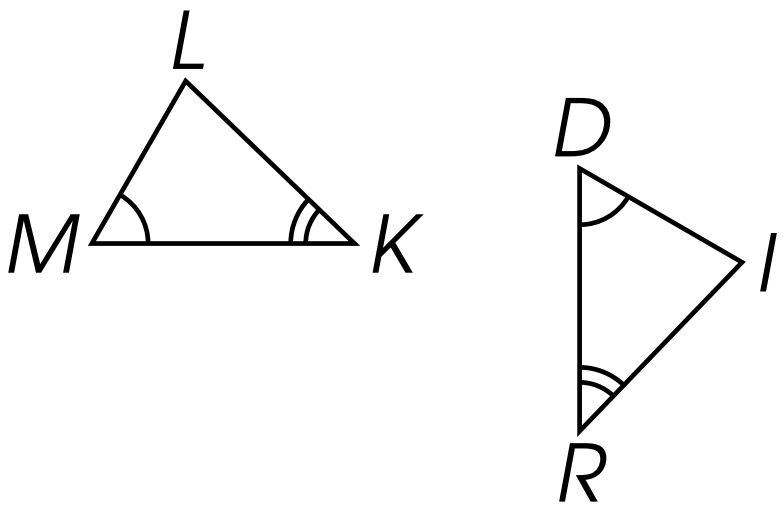
Example 5

Complete the statements using the ASA congruence postulate.



Example 5

Complete the statements using the ASA congruence postulate.



$\angle M \cong$

Example 5

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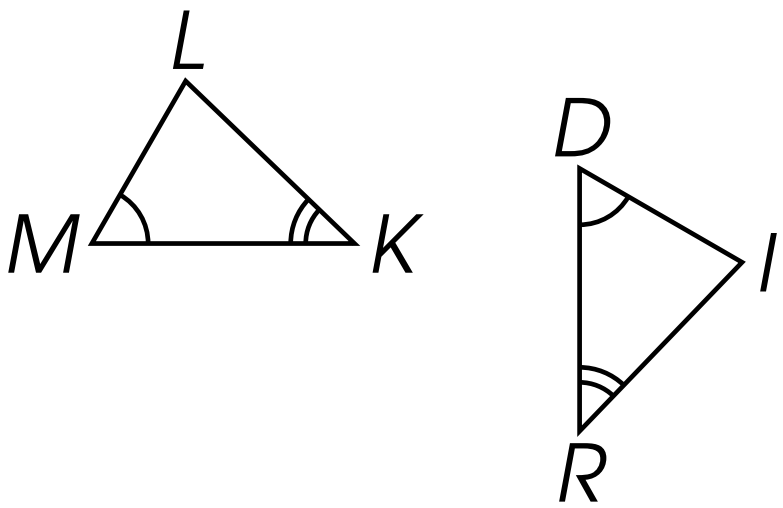

$\angle M \cong \angle D$

Example 5

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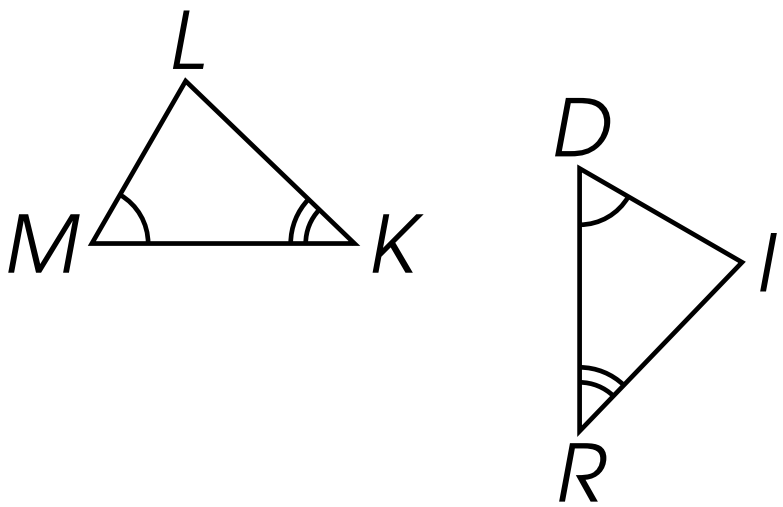

$\angle M \cong \angle D$

$\angle K \cong$

Example 5

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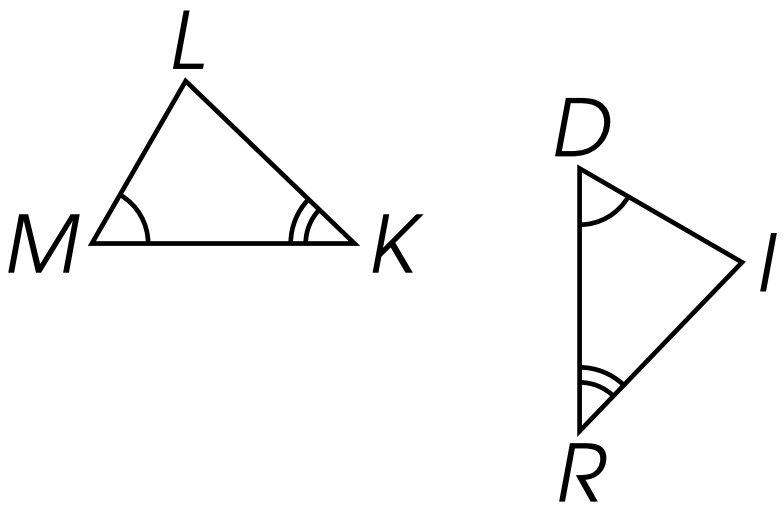

$\angle M \cong \angle D$

$\angle K \cong \angle R$

Example 5

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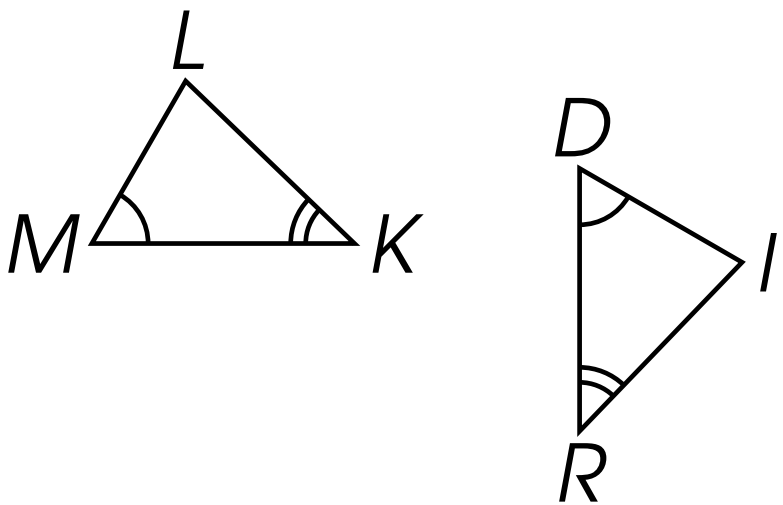


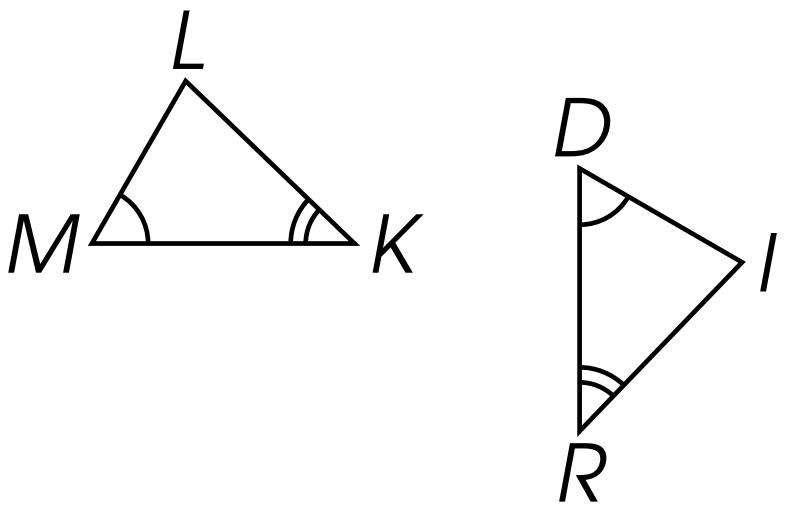
$\angle M \cong \angle D$

$\angle K \cong \angle R$

$\overline{MK} \cong$

Example 5

Complete the statements using the ASA congruence postulate.



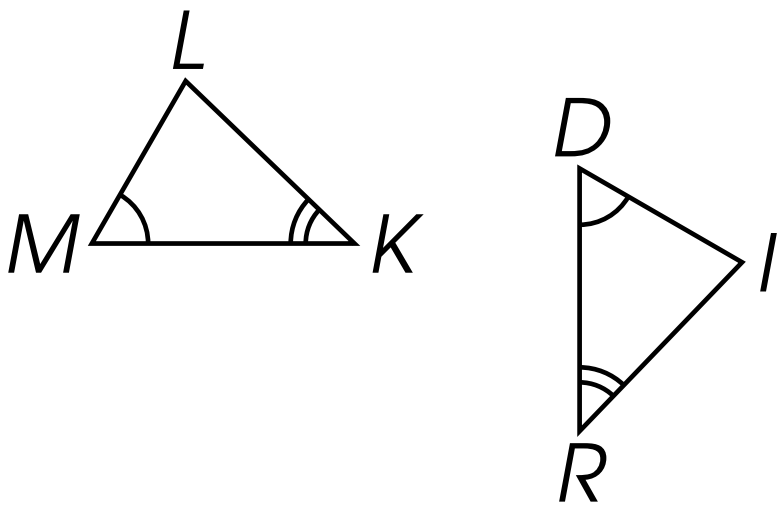
$\angle M \cong \angle D$

$\angle K \cong \angle R$

$\overline{MK} \cong \overline{DR}$

Example 5

Complete the statements using the ASA congruence postulate.



$\angle M \cong \angle D$

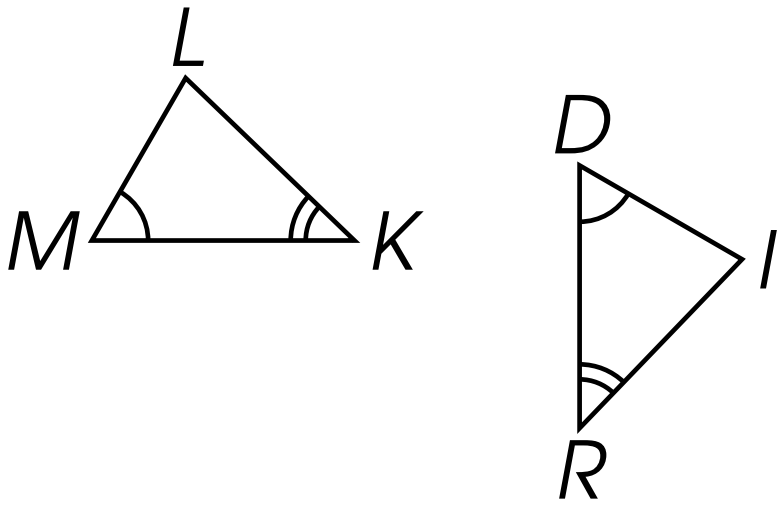
$\angle K \cong \angle R$

$\overline{MK} \cong \overline{DR}$

$\triangle KLM \cong$

Example 5

Complete the statements using the ASA congruence postulate.



$\angle M \cong \angle D$

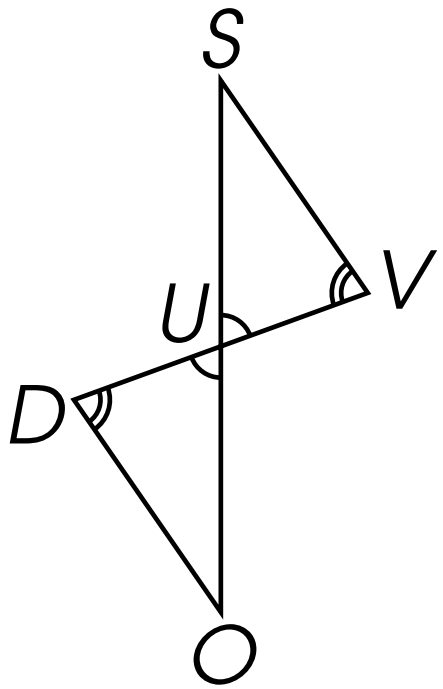
$\angle K \cong \angle R$

$\overline{MK} \cong \overline{DR}$

$\triangle KLM \cong \triangle RID$

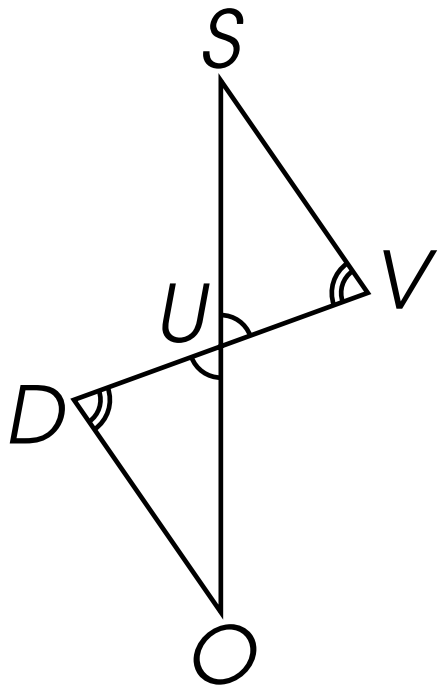
Example 6

Complete the statements using the ASA congruence postulate.



Example 6

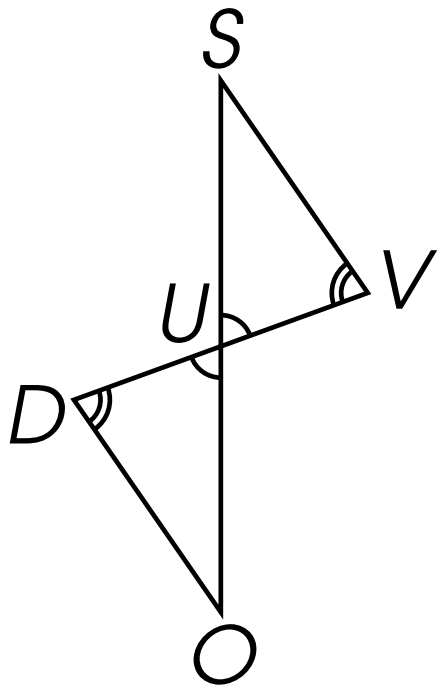
Complete the statements using the ASA congruence postulate.



$\angle DUO \cong$

Example 6

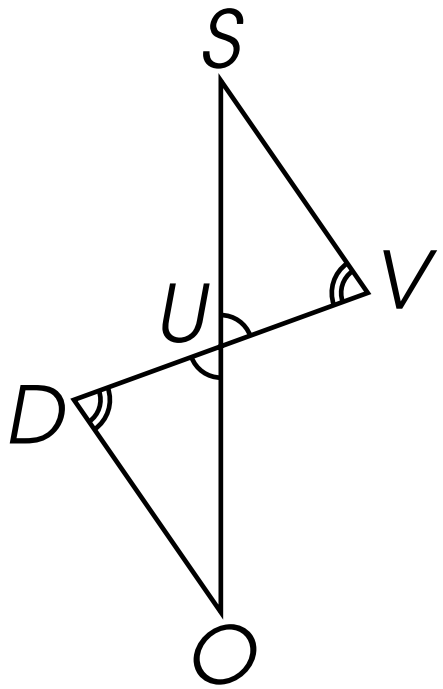
Complete the statements using the ASA congruence postulate.



$\angle DUO \cong \angle VUS$

Example 6

Complete the statements using the ASA congruence postulate.

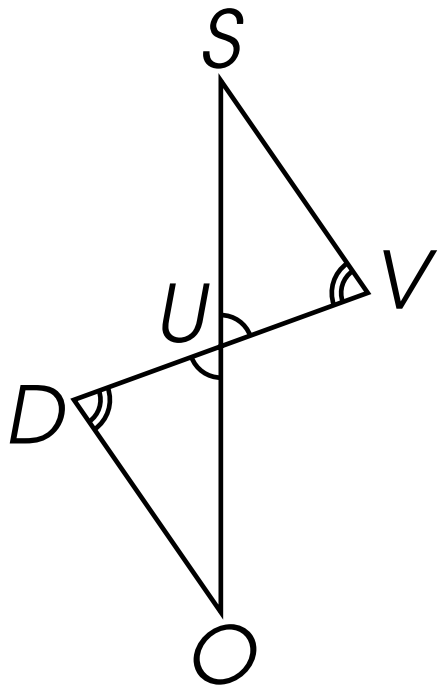


$\angle DUO \cong \angle VUS$

$\angle D \cong$

Example 6

Complete the statements using the ASA congruence postulate.

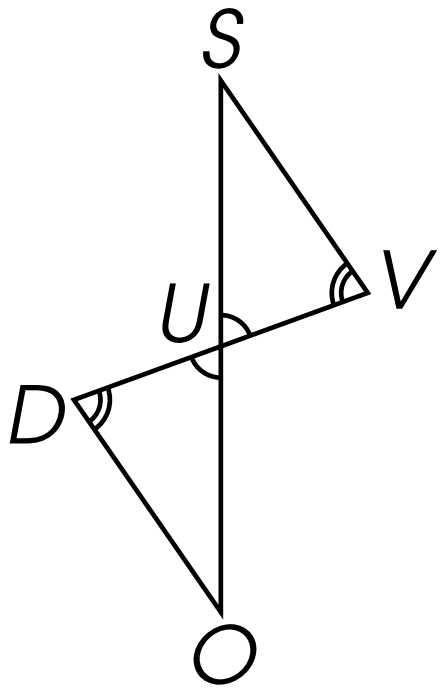


$\angle DUO \cong \angle VUS$

$\angle D \cong \angle V$

Example 6

Complete the statements using the ASA congruence postulate.



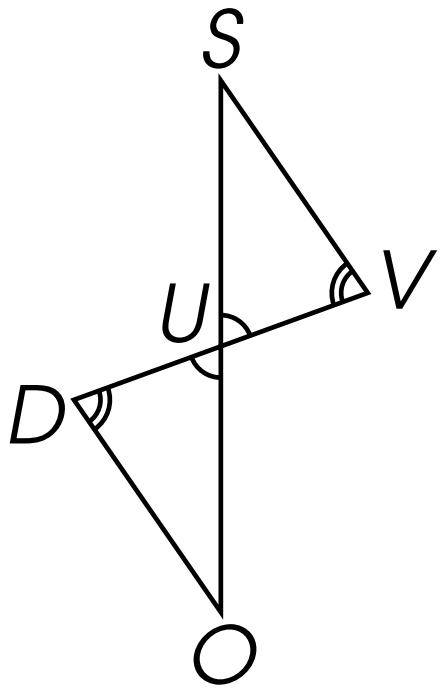
$\angle DUO \cong \angle VUS$

$\angle D \cong \angle V$

$\overline{UD} \cong$

Example 6

Complete the statements using the ASA congruence postulate.



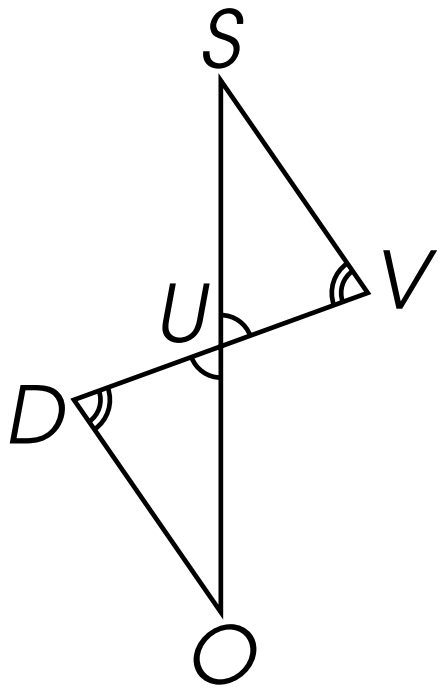
$\angle DUO \cong \angle VUS$

$\angle D \cong \angle V$

$\overline{UD} \cong \overline{UV}$

Example 6

Complete the statements using the ASA congruence postulate.



$\angle DUO \cong \angle VUS$

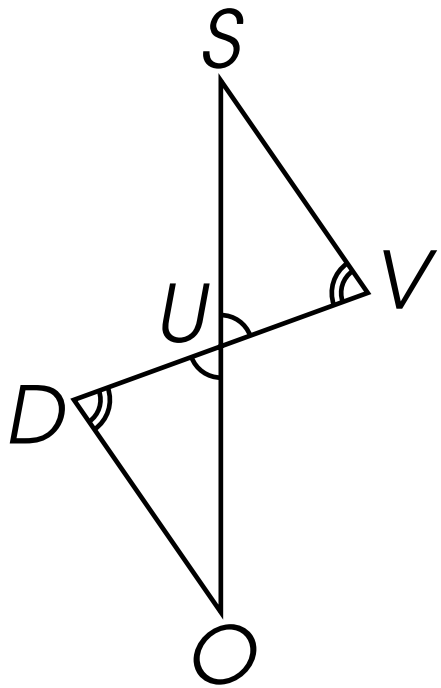
$\angle D \cong \angle V$

$\overline{UD} \cong \overline{UV}$

$\triangle DUO \cong$

Example 6

Complete the statements using the ASA congruence postulate.



$\angle DUO \cong \angle VUS$

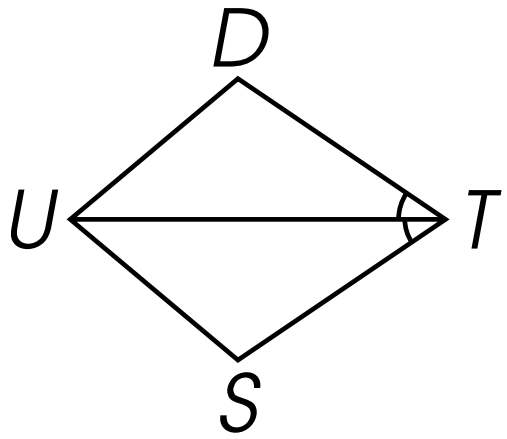
$\angle D \cong \angle V$

$\overline{UD} \cong \overline{UV}$

$\triangle DUO \cong \triangle VUS$

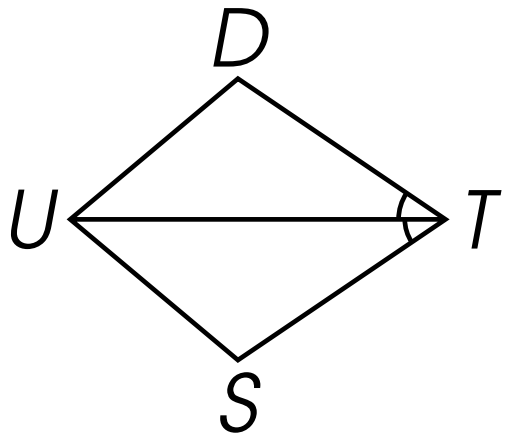
Example 7

Complete the statements using the ASA congruence postulate.



Example 7

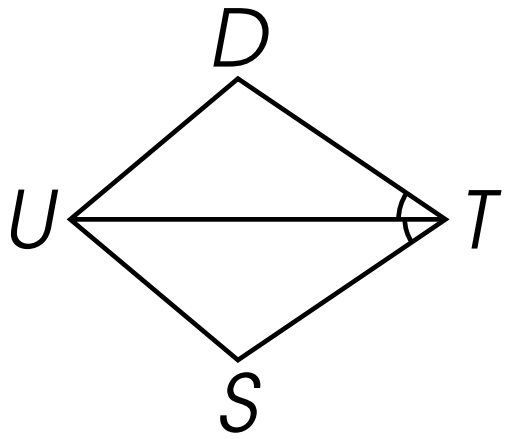
Complete the statements using the ASA congruence postulate.



$\overline{UT} \cong$

Example 7

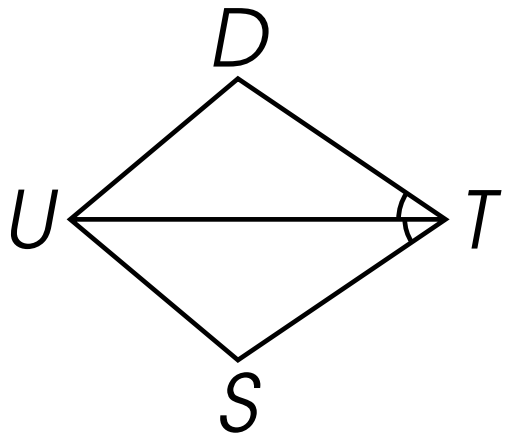
Complete the statements using the ASA congruence postulate.



$\overline{UT} \cong \overline{UT}$

Example 7

Complete the statements using the ASA congruence postulate.

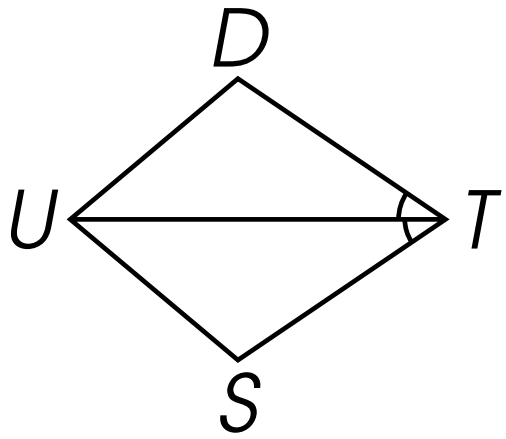


$\overline{UT} \cong \overline{UT}$

$\angle DTU \cong$

Example 7

Complete the statements using the ASA congruence postulate.

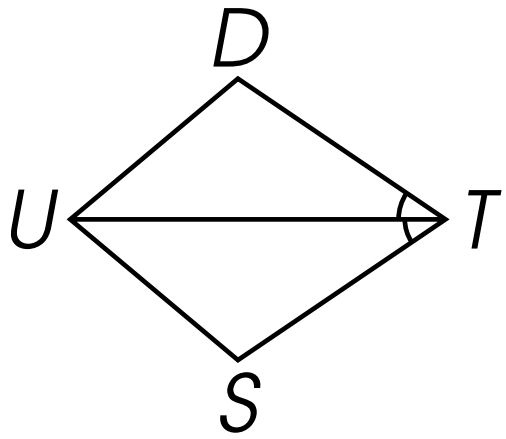


$\overline{UT} \cong \overline{UT}$

$\angle DTU \cong \angle STU$

Example 7

Complete the statements using the ASA congruence postulate.



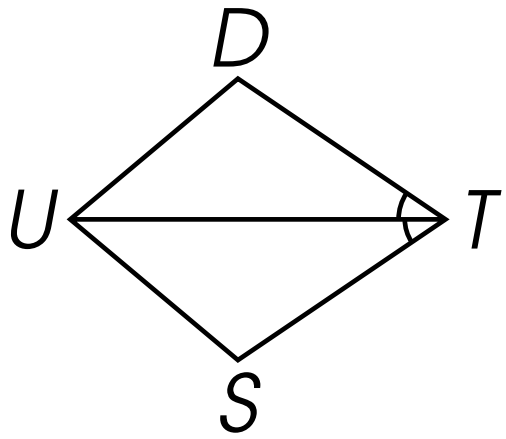
$\overline{UT} \cong \overline{UT}$

$\angle DUT \cong$

$\angle DTU \cong \angle STU$

Example 7

Complete the statements using the ASA congruence postulate.



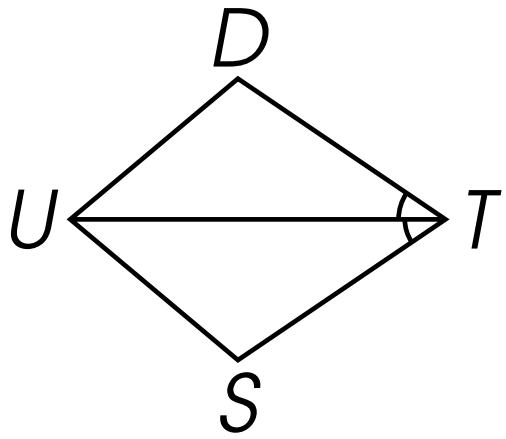
$\overline{UT} \cong \overline{UT}$

$\angle DUT \cong \angle SUT$

$\angle DTU \cong \angle STU$

Example 7

Complete the statements using the ASA congruence postulate.



$\overline{UT} \cong \overline{UT}$

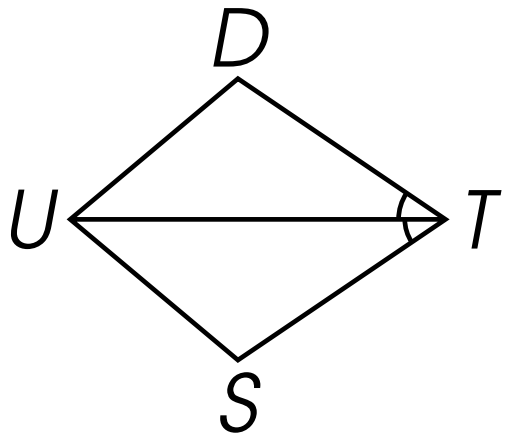
$\angle DTU \cong \angle STU$

$\angle DUT \cong \angle SUT$

$\triangle DTU \cong$

Example 7

Complete the statements using the ASA congruence postulate.



$\overline{UT} \cong \overline{UT}$

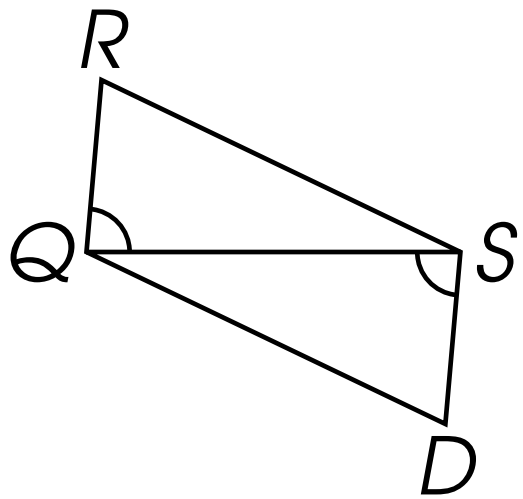
$\angle DTU \cong \angle STU$

$\angle DUT \cong \angle SUT$

$\triangle DTU \cong \triangle STU$

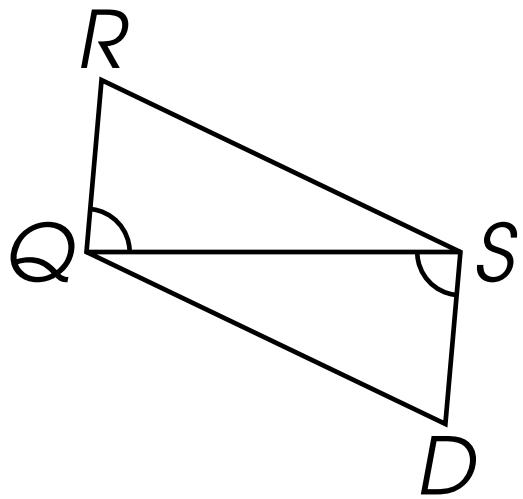
Example 8

Complete the statements using the ASA congruence postulate.



Example 8

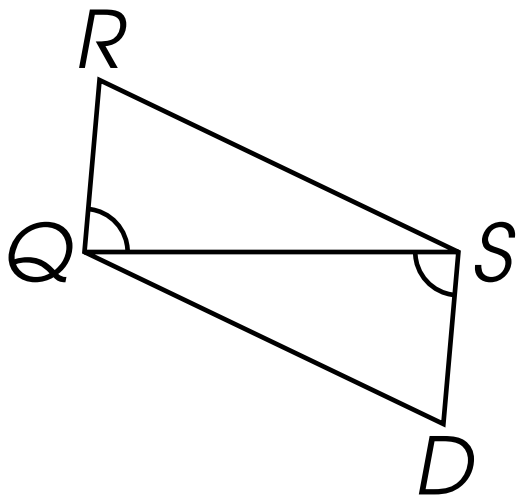
Complete the statements using the ASA congruence postulate.



$\overline{QS} \cong$

Example 8

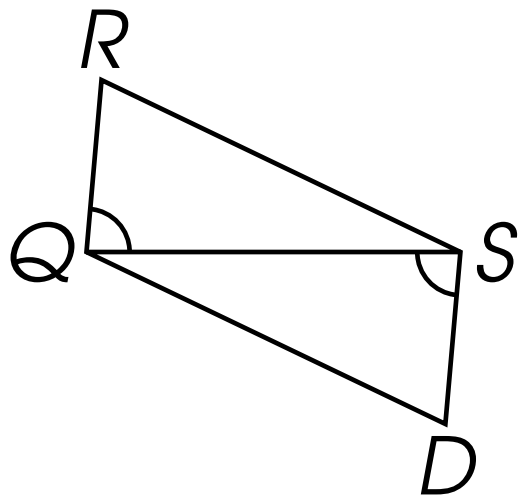
Complete the statements using the ASA congruence postulate.



$\overline{QS} \cong \overline{SQ}$

Example 8

Complete the statements using the ASA congruence postulate.

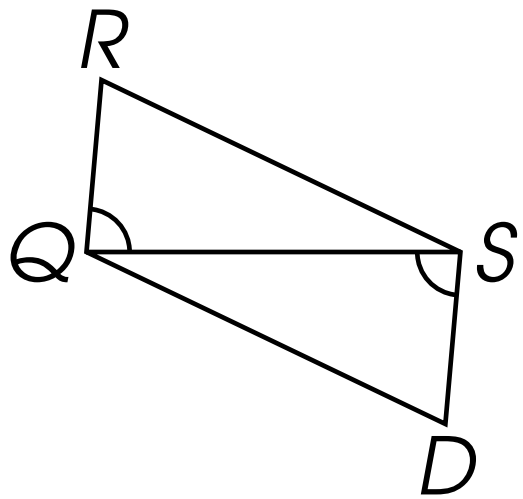


$\overline{QS} \cong \overline{SQ}$

$\angle RQS \cong$

Example 8

Complete the statements using the ASA congruence postulate.

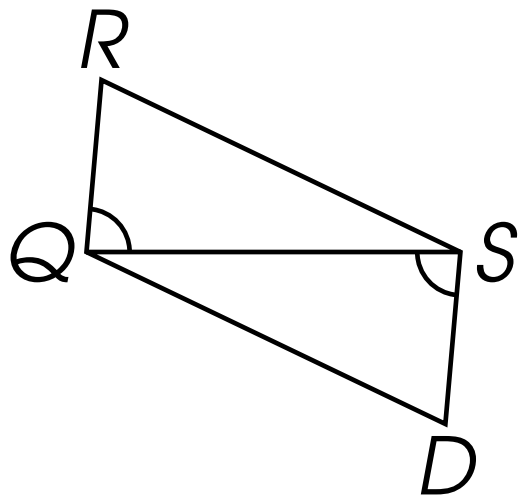


$\overline{QS} \cong \overline{SQ}$

$\angle RQS \cong \angle DSQ$

Example 8

Complete the statements using the ASA congruence postulate.



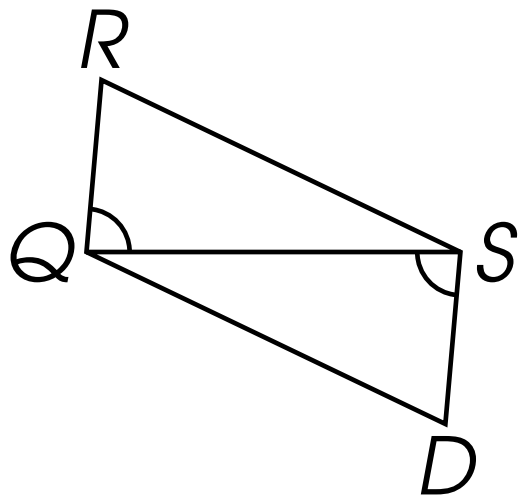
$\overline{QS} \cong \overline{SQ}$

$\angle RQS \cong \angle DSQ$

$\angle RSQ \cong$

Example 8

Complete the statements using the ASA congruence postulate.



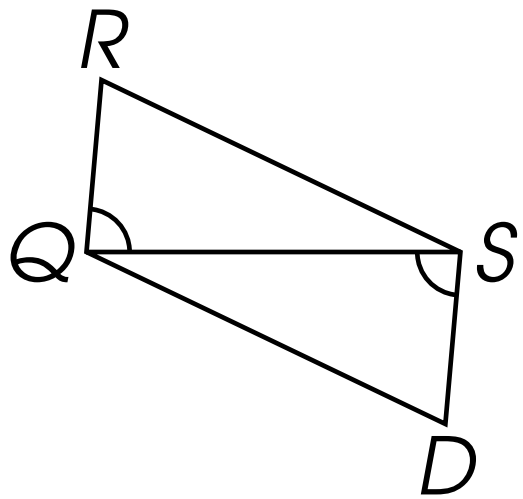
$\overline{QS} \cong \overline{SQ}$

$\angle RQS \cong \angle DSQ$

$\angle RSQ \cong \angle DQS$

Example 8

Complete the statements using the ASA congruence postulate.



$\overline{QS} \cong \overline{SQ}$

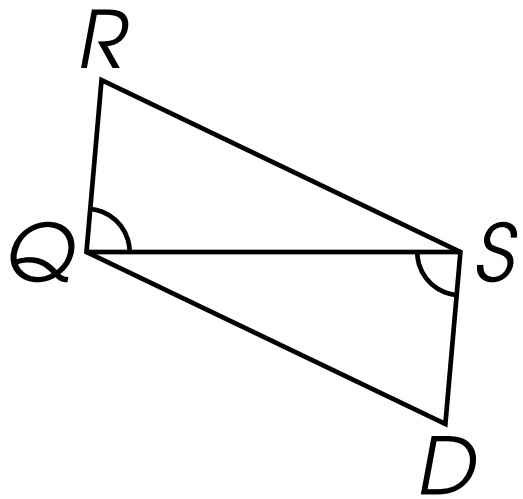
$\angle RQS \cong \angle DSQ$

$\angle RSQ \cong \angle DQS$

$\triangle RQS \cong$

Example 8

Complete the statements using the ASA congruence postulate.



$\overline{QS} \cong \overline{SQ}$

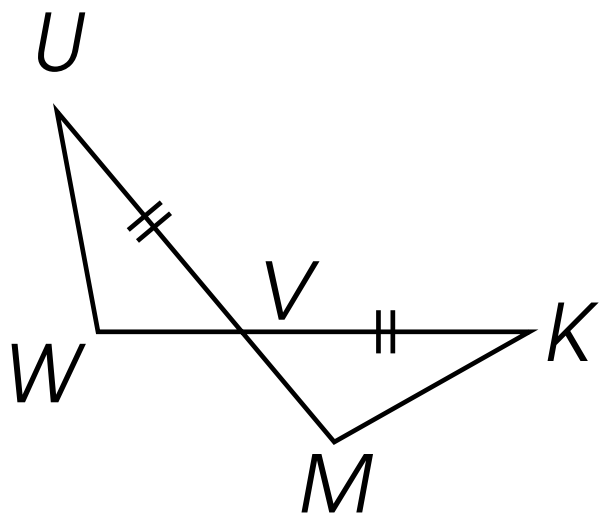
$\angle RQS \cong \angle DSQ$

$\angle RSQ \cong \angle DQS$

$\triangle RQS \cong \triangle DSQ$

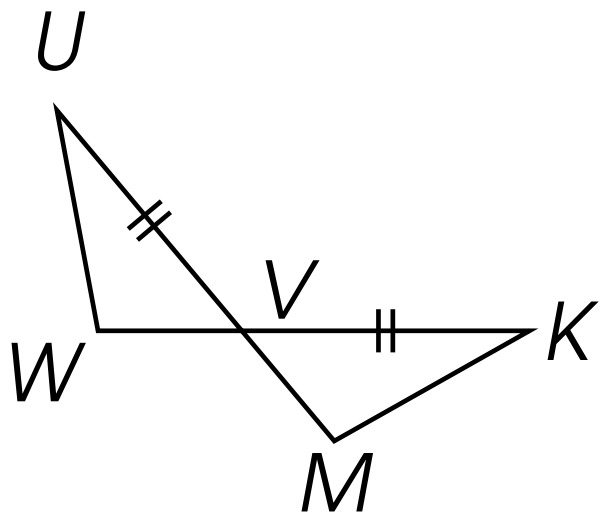
Example 9

Complete the statements using the ASA congruence postulate.



Example 9

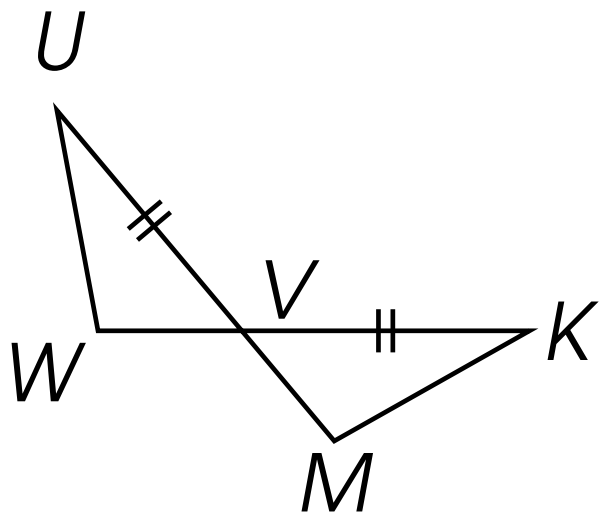
Complete the statements using the ASA congruence postulate.



$\overline{UV} \cong$

Example 9

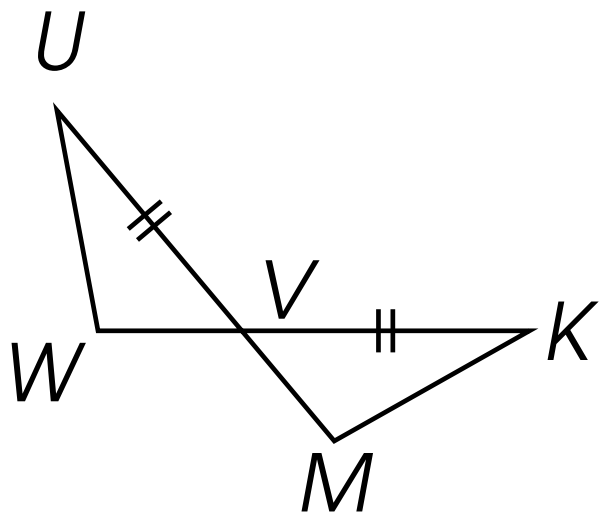
Complete the statements using the ASA congruence postulate.



$\overline{UV} \cong \overline{KV}$

Example 9

Complete the statements using the ASA congruence postulate.

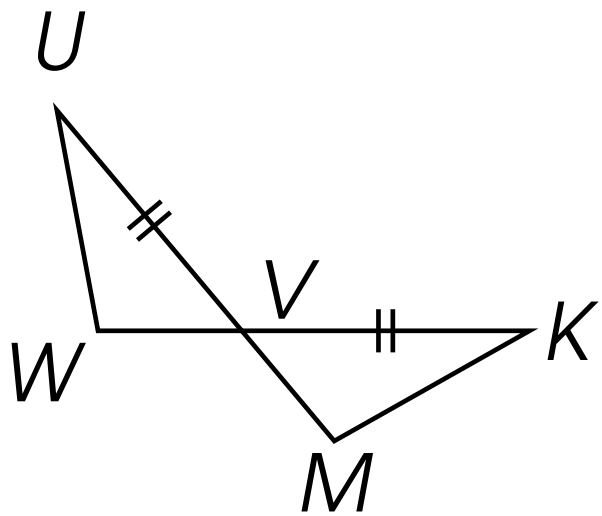


$\overline{UV} \cong \overline{KV}$

$\angle UVW \cong$

Example 9

Complete the statements using the ASA congruence postulate.

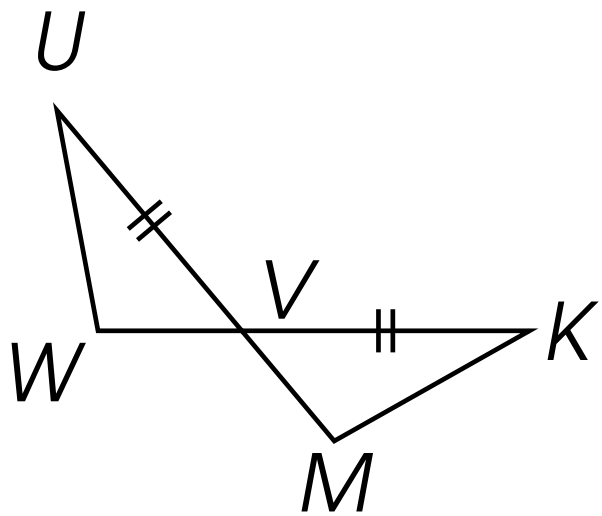


$\overline{UV} \cong \overline{KV}$

$\angle UVW \cong \angle KVM$

Example 9

Complete the statements using the ASA congruence postulate.



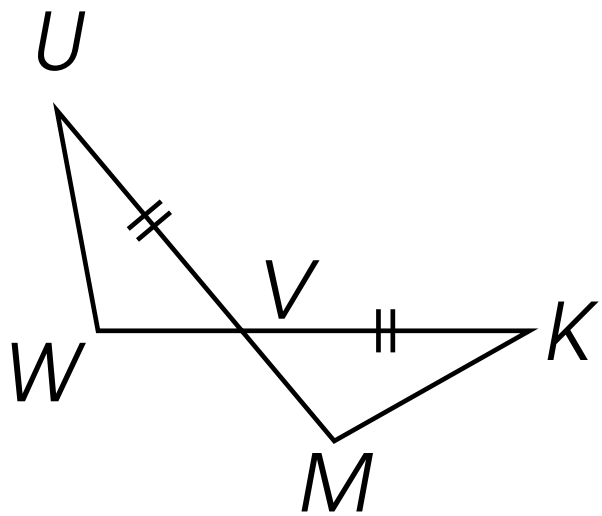
$\overline{UV} \cong \overline{KV}$

$\angle UVW \cong \angle KVM$

$\angle U \cong$

Example 9

Complete the statements using the ASA congruence postulate.



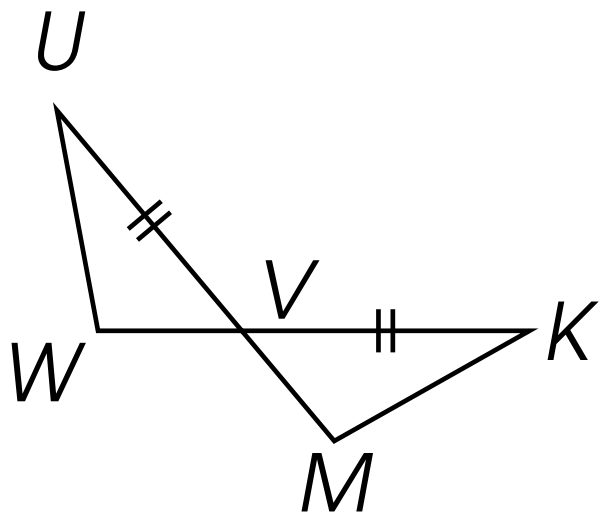
$\overline{UV} \cong \overline{KV}$

$\angle UVW \cong \angle KVM$

$\angle U \cong \angle K$

Example 9

Complete the statements using the ASA congruence postulate.



$\overline{UV} \cong \overline{KV}$

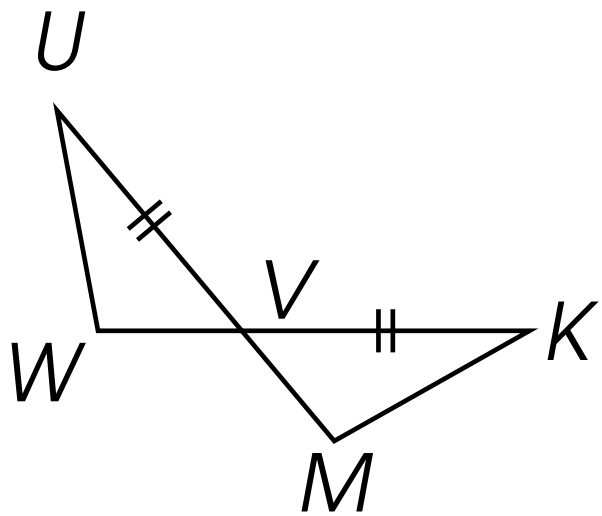
$\angle UVW \cong \angle KVM$

$\angle U \cong \angle K$

$\triangle UVW \cong$

Example 9

Complete the statements using the ASA congruence postulate.



$\overline{UV} \cong \overline{KV}$

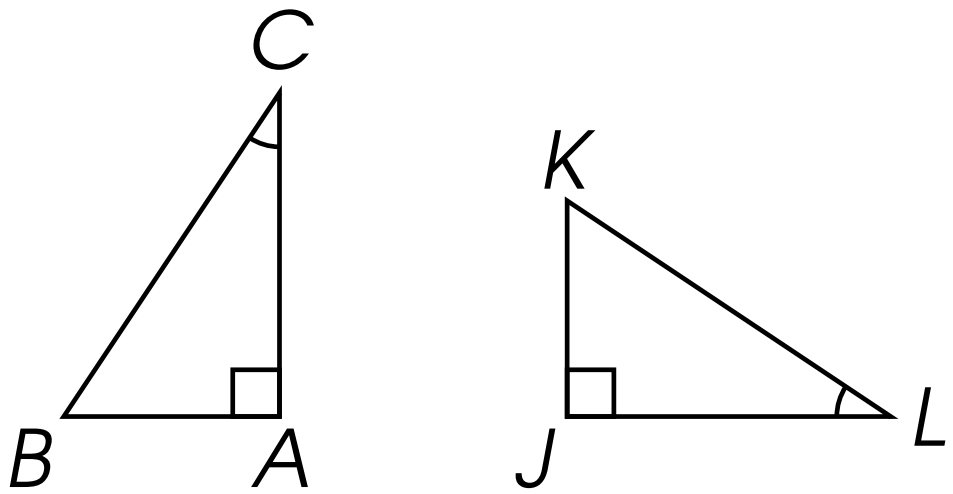
$\angle UVW \cong \angle KVM$

$\angle U \cong \angle K$

$\triangle UVW \cong \triangle KVM$

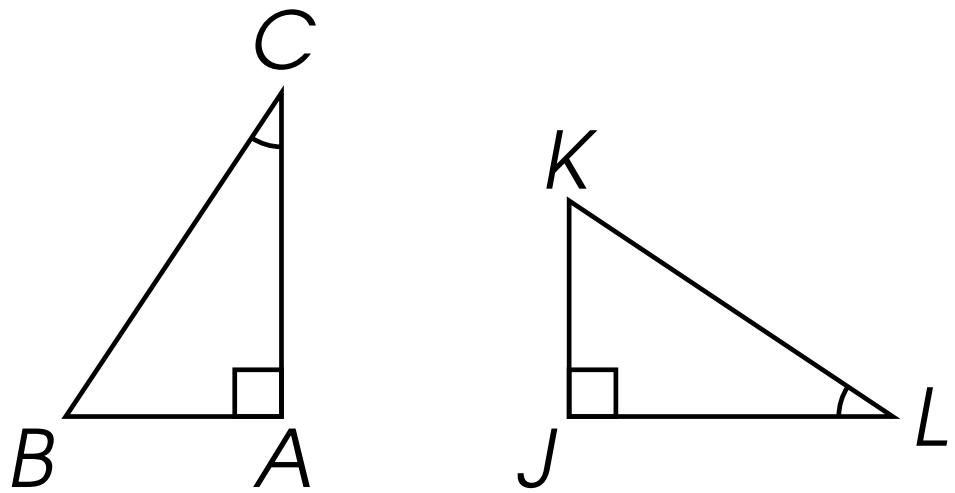
Example 10

Complete the statements using the ASA congruence postulate.



Example 10

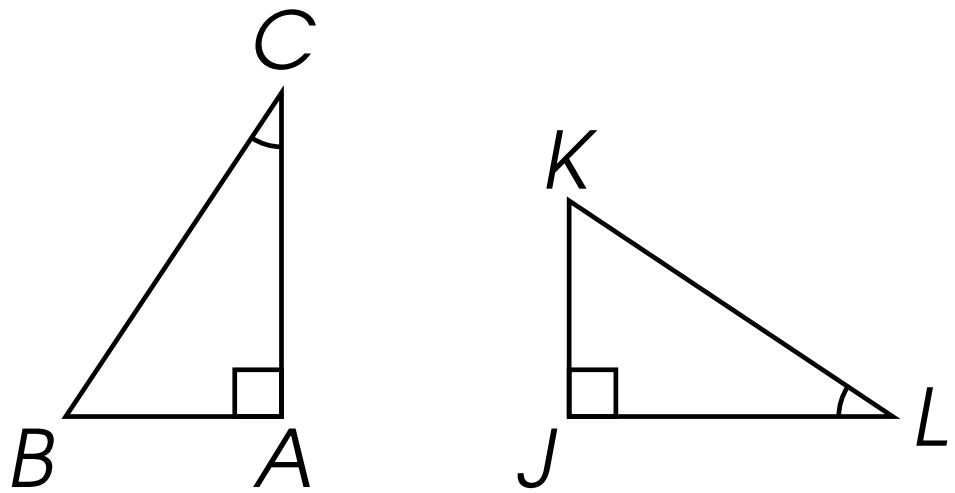
Complete the statements using the ASA congruence postulate.



$\angle C \cong$

Example 10

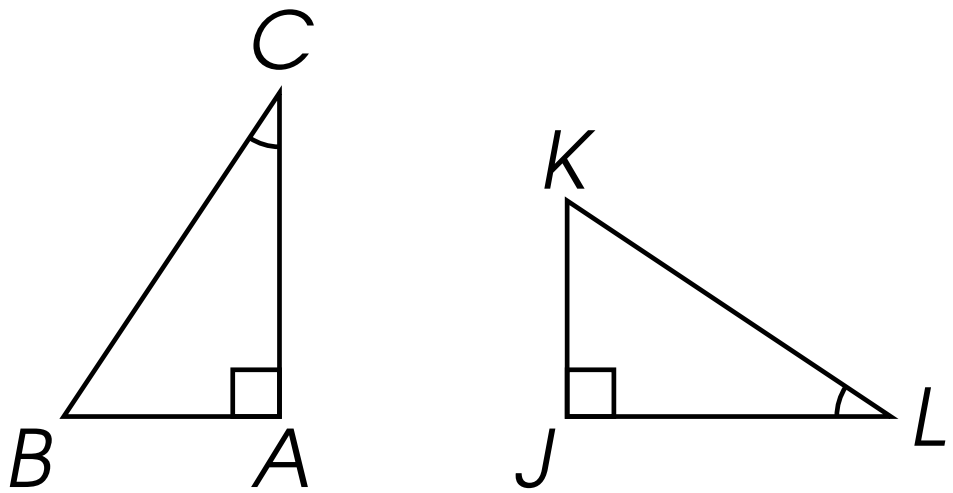
Complete the statements using the ASA congruence postulate.



$\angle C \cong \angle L$

Example 10

Complete the statements using the ASA congruence postulate.

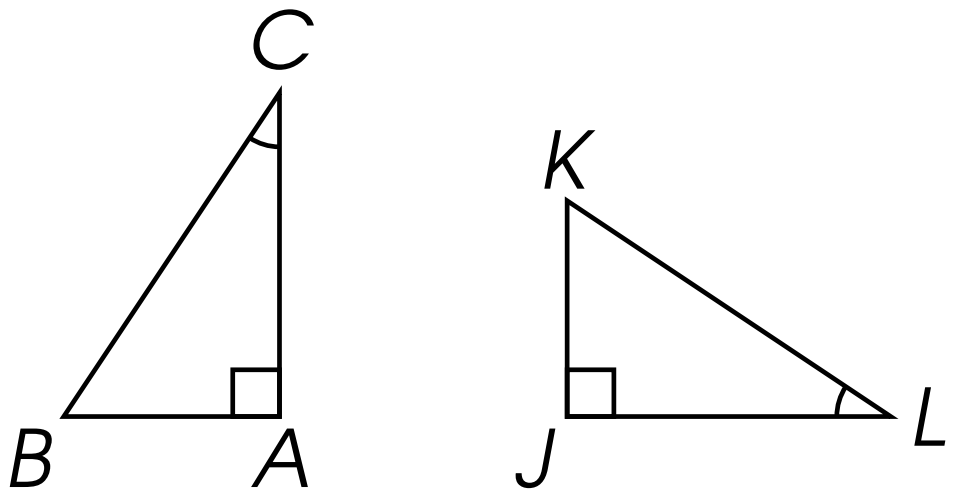


$\angle C \cong \angle L$

$\angle A \cong$

Example 10

Complete the statements using the ASA congruence postulate.

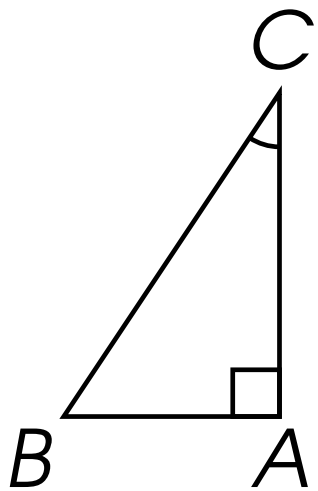


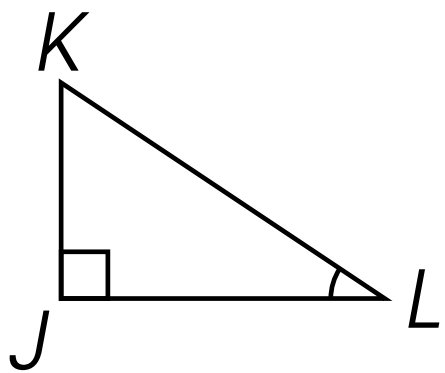
$\angle C \cong \angle L$

$\angle A \cong \angle J$

Example 10

Complete the statements using the ASA congruence postulate.





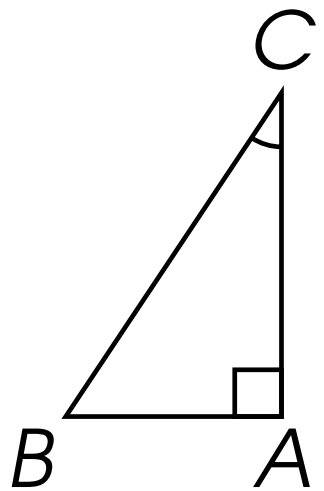
$\angle C \cong \angle L$

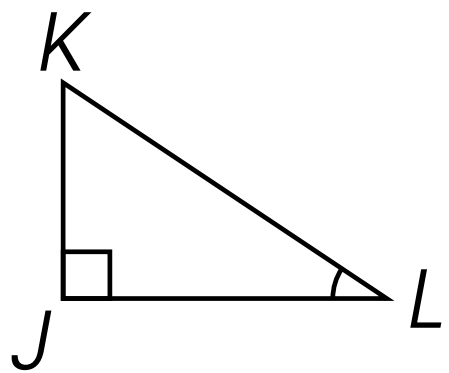
$\angle A \cong \angle J$

$\overline{AC} \cong$

Example 10

Complete the statements using the ASA congruence postulate.





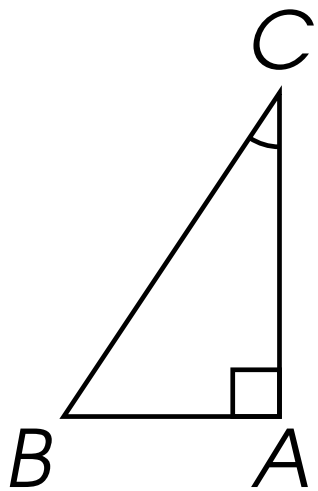
$\angle C \cong \angle L$

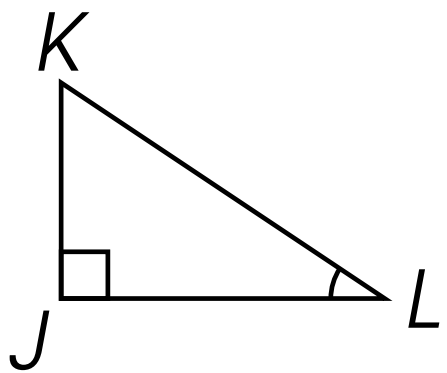
$\angle A \cong \angle J$

$\overline{AC} \cong \overline{JL}$

Example 10

Complete the statements using the ASA congruence postulate.





$\angle C \cong \angle L$

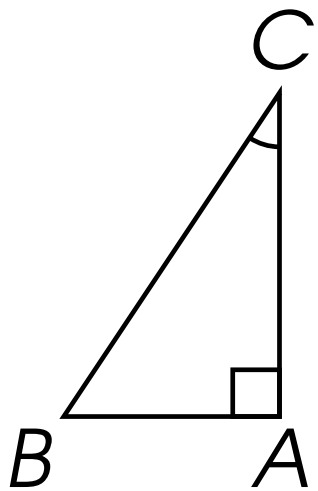
$\angle A \cong \angle J$

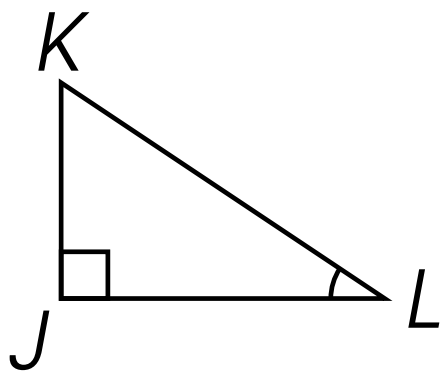
$\overline{AC} \cong \overline{JL}$

$\triangle ABC \cong$

Example 10

Complete the statements using the ASA congruence postulate.





$\angle C \cong \angle L$

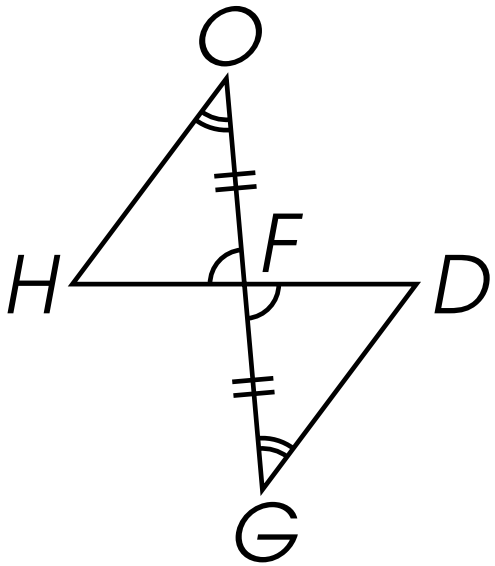
$\angle A \cong \angle J$

$\overline{AC} \cong \overline{JL}$

$\triangle ABC \cong \triangle JKL$

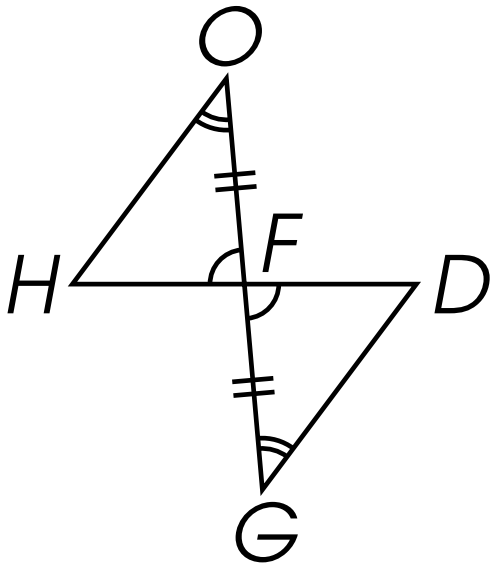
Example 11

Show that $\triangle OFH$ and $\triangle GFD$ are congruent using the ASA triangle congruence postulate.



Example 11

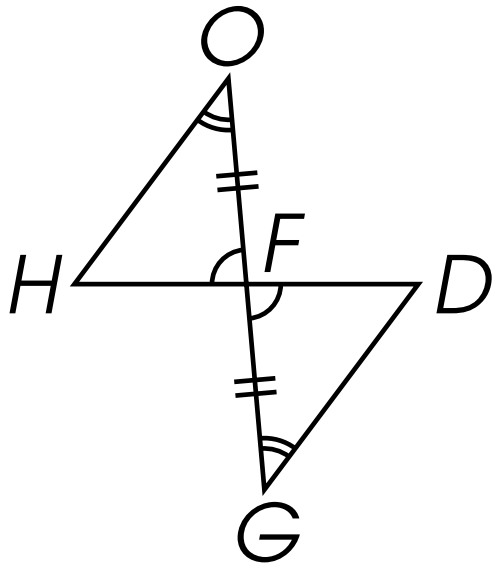
Show that $\triangle OFH$ and $\triangle GFD$ are congruent using the ASA triangle congruence postulate.



$\angle OFH \cong$

Example 11

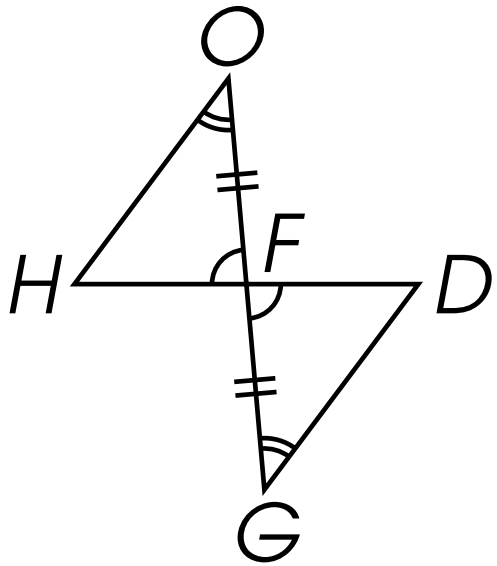
Show that $\triangle OFH$ and $\triangle GFD$ are congruent using the ASA triangle congruence postulate.



$\angle OFH \cong \angle GFD$

Example 11

Show that $\triangle OFH$ and $\triangle GFD$ are congruent using the ASA triangle congruence postulate.

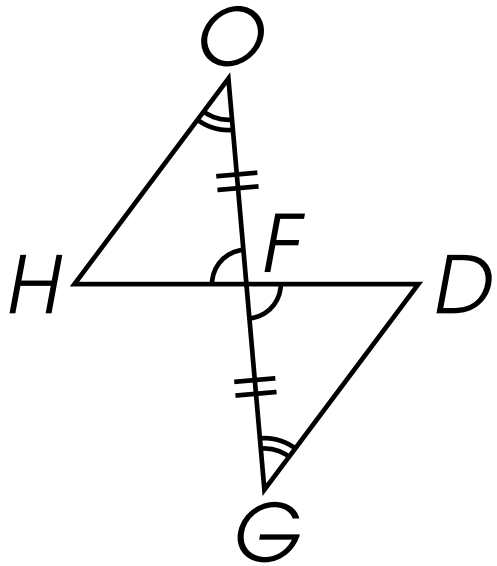


$\angle OFH \cong \angle GFD$

$\overline{FO} \cong$

Example 11

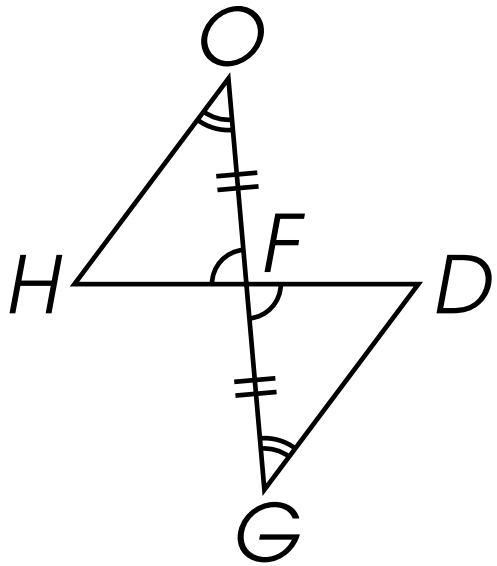
Show that $\triangle OFH$ and $\triangle GFD$ are congruent using the ASA triangle congruence postulate.



$$\angle OFH \cong \angle GFD$$
$$\overline{FO} \cong \overline{FG}$$

Example 11

Show that $\triangle OFH$ and $\triangle GFD$ are congruent using the ASA triangle congruence postulate.



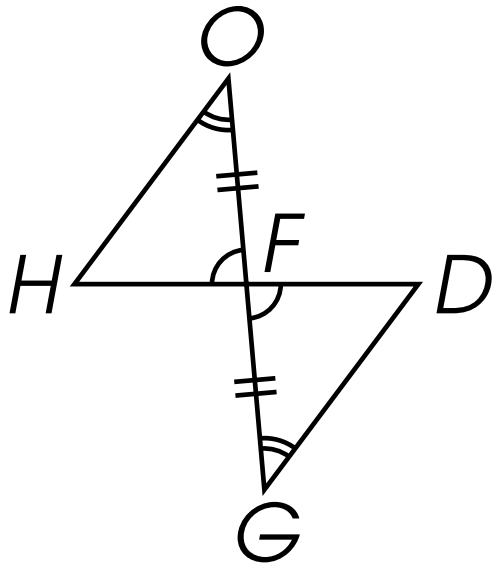
$\angle OFH \cong \angle GFD$

$\overline{FO} \cong \overline{FG}$

$\angle O \cong$

Example 11

Show that $\triangle OFH$ and $\triangle GFD$ are congruent using the ASA triangle congruence postulate.



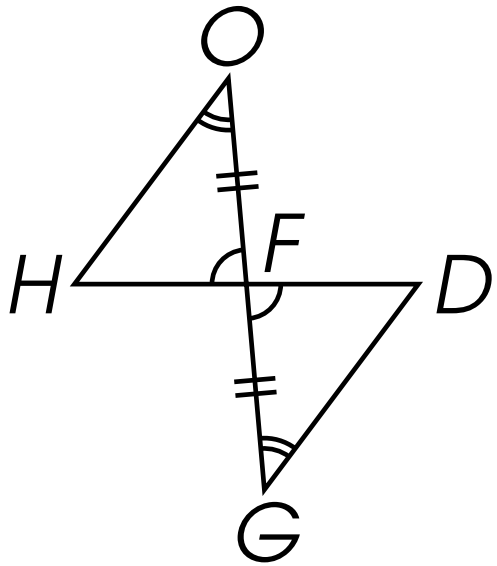
$\angle OFH \cong \angle GFD$

$\overline{FO} \cong \overline{FG}$

$\angle O \cong \angle G$

Example 11

Show that $\triangle OFH$ and $\triangle GFD$ are congruent using the ASA triangle congruence postulate.



$\angle OFH \cong \angle GFD$

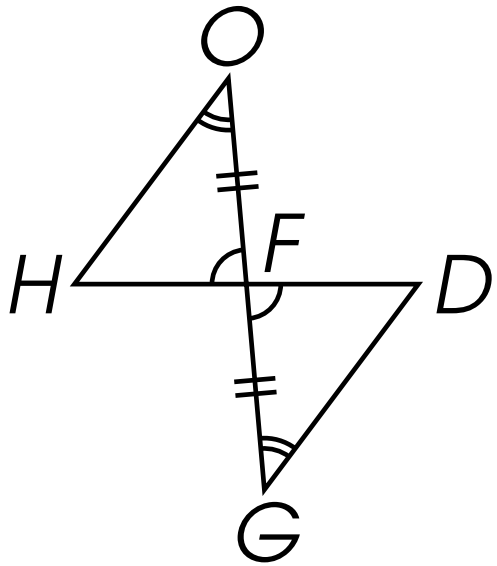
$\overline{FO} \cong \overline{FG}$

$\angle O \cong \angle G$

$\therefore \triangle OFH \cong$

Example 11

Show that $\triangle OFH$ and $\triangle GFD$ are congruent using the ASA triangle congruence postulate.



$\angle OFH \cong \angle GFD$

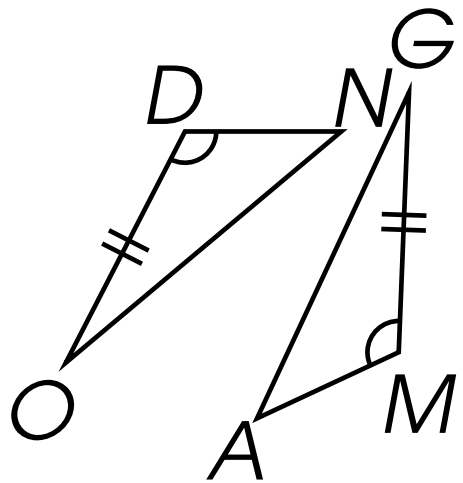
$\overline{FO} \cong \overline{FG}$

$\angle O \cong \angle G$

$\therefore \triangle OFH \cong \triangle GFD$

Example 12

The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



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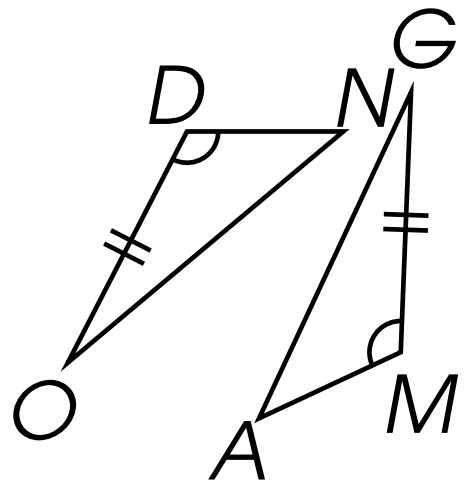
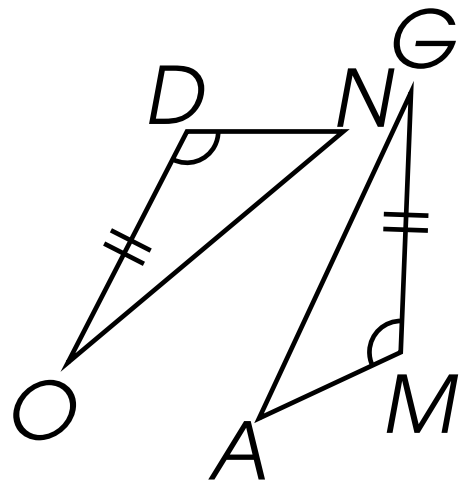


$\angle O \cong$

Example 12

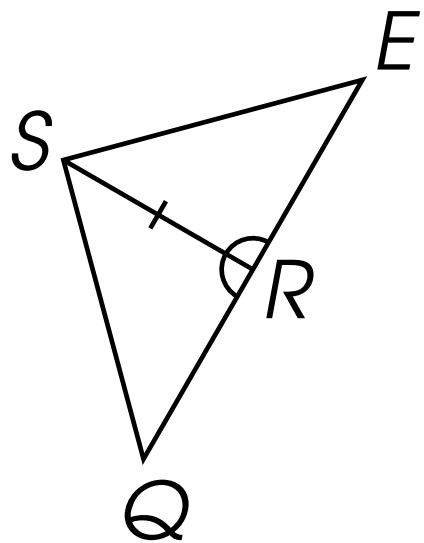
The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



$\angle O \cong \angle G$

Example 13

The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



Example 13

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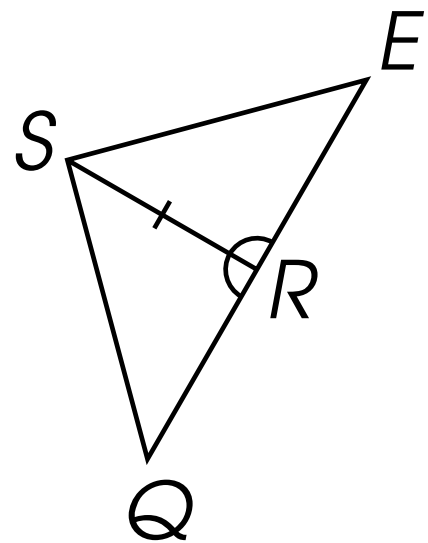
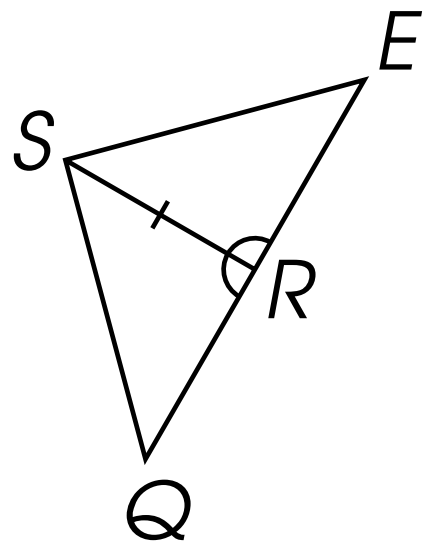


$\angle QSR \cong$

Example 13

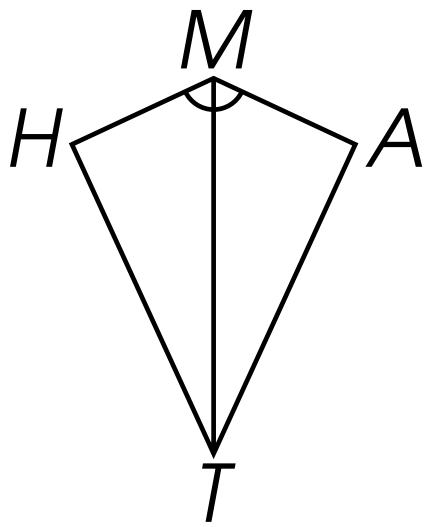
The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



$\angle QSR \cong \angle ESR$

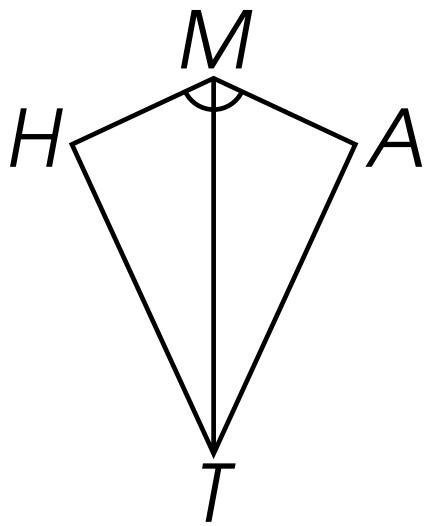
Example 14

The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



Example 14

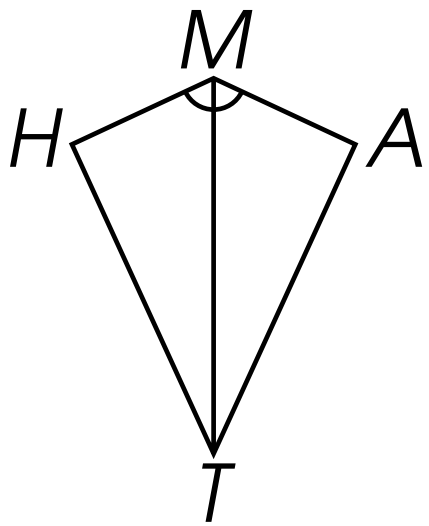
The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



$\angle HTM \cong$

Example 14

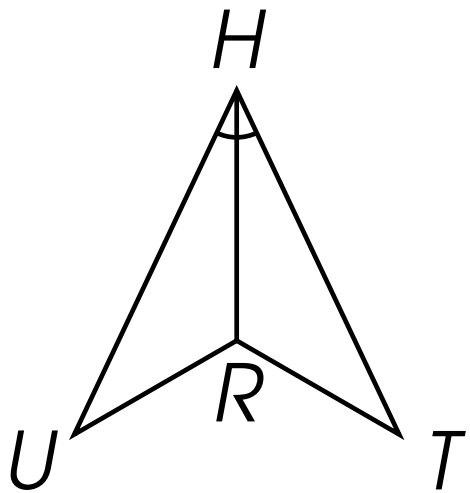
The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



$\angle HTM \cong \angle ATM$

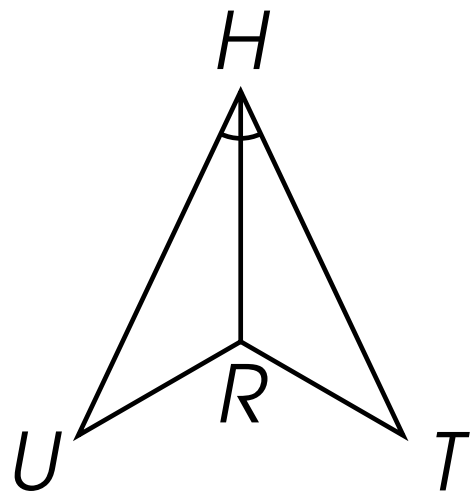
Example 15

The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



Example 15

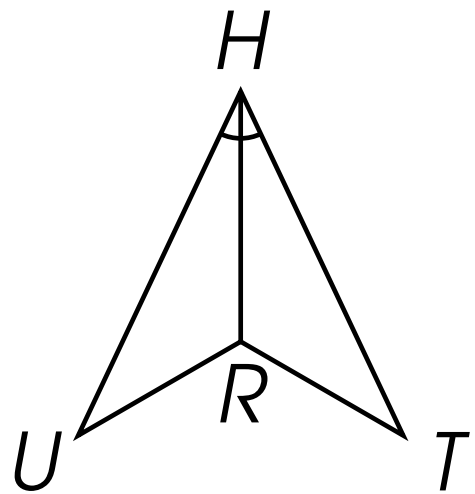
The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



$\angle HRU \cong$

Example 15

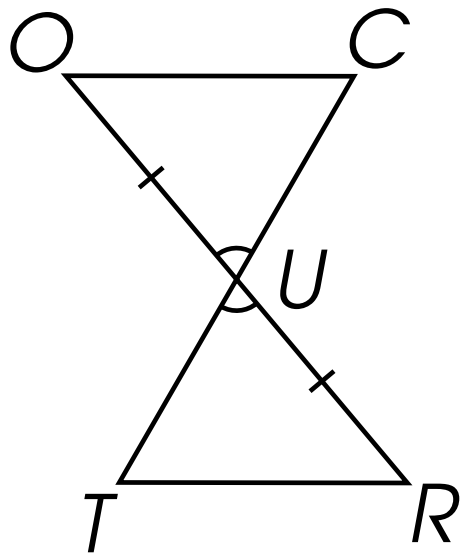
The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



$\angle HRU \cong \angle HRT$

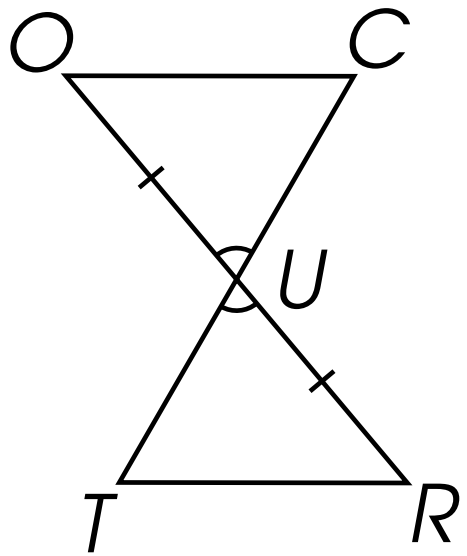
Example 16

The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



Example 16

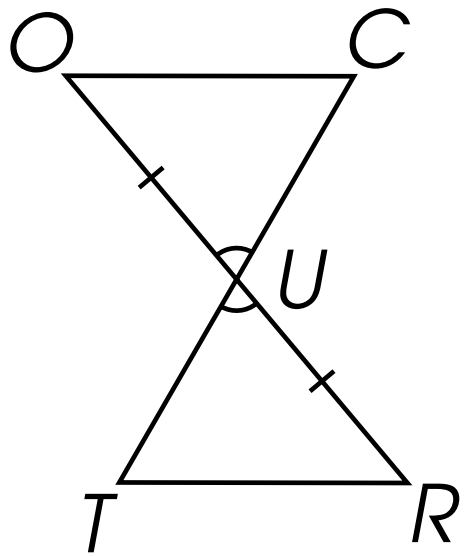
The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



$\angle O \cong$

Example 16

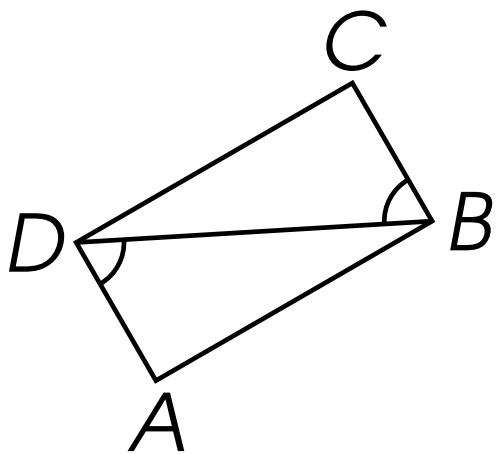
The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



$\angle O \cong \angle R$

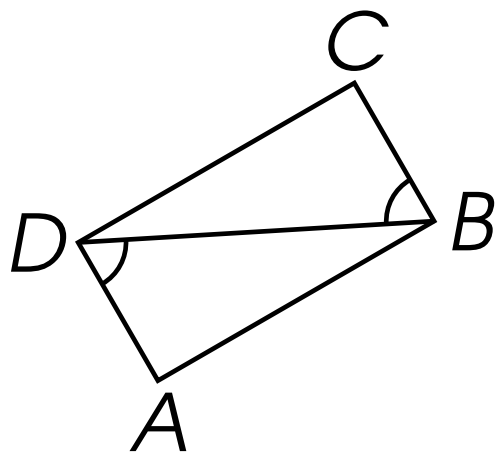
Example 17

The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



Example 17

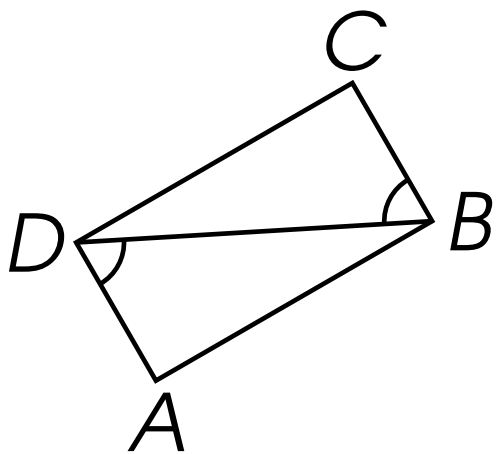
The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



$\angle BDC \cong$

Example 17

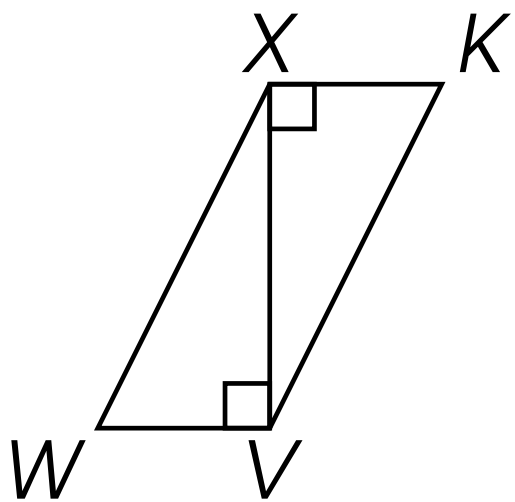
The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



$\angle BDC \cong \angle DBA$

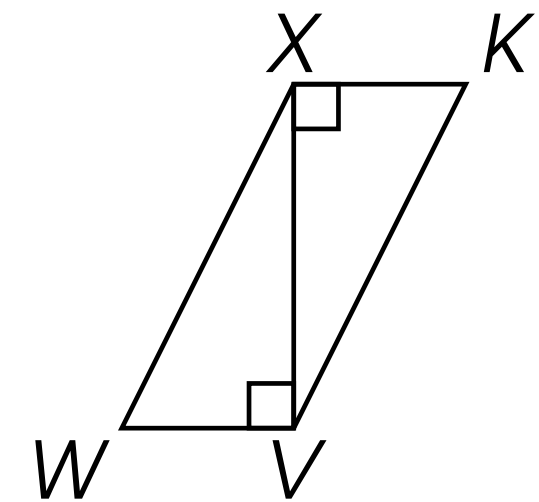
Example 18

The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



Example 18

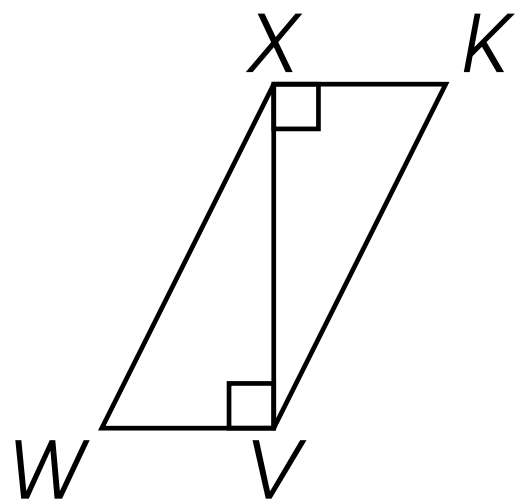
The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



$\angle VXW \cong$

Example 18

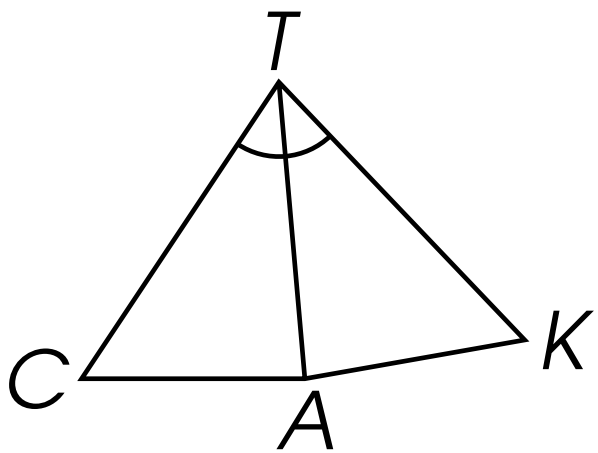
The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



$\angle VXW \cong \angle XVK$

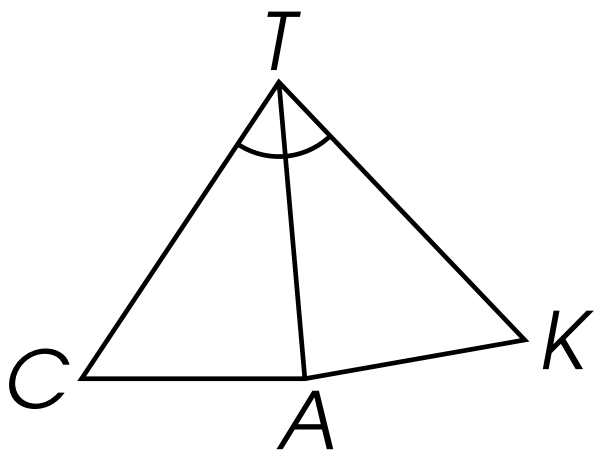
Example 19

The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



Example 19

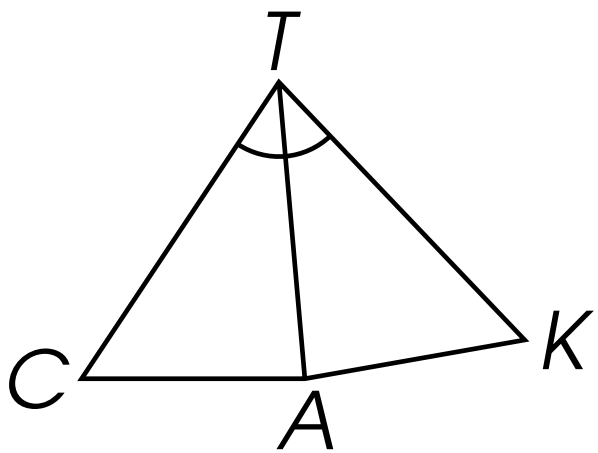
The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



$\angle TAC \cong$

Example 19

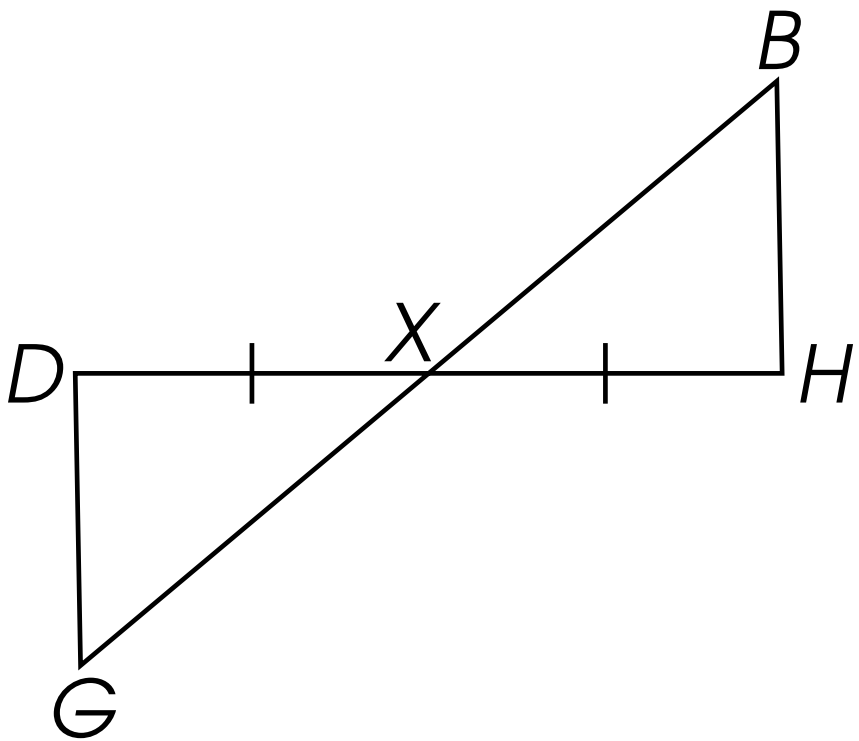
The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



$\angle TAC \cong \angle TAK$

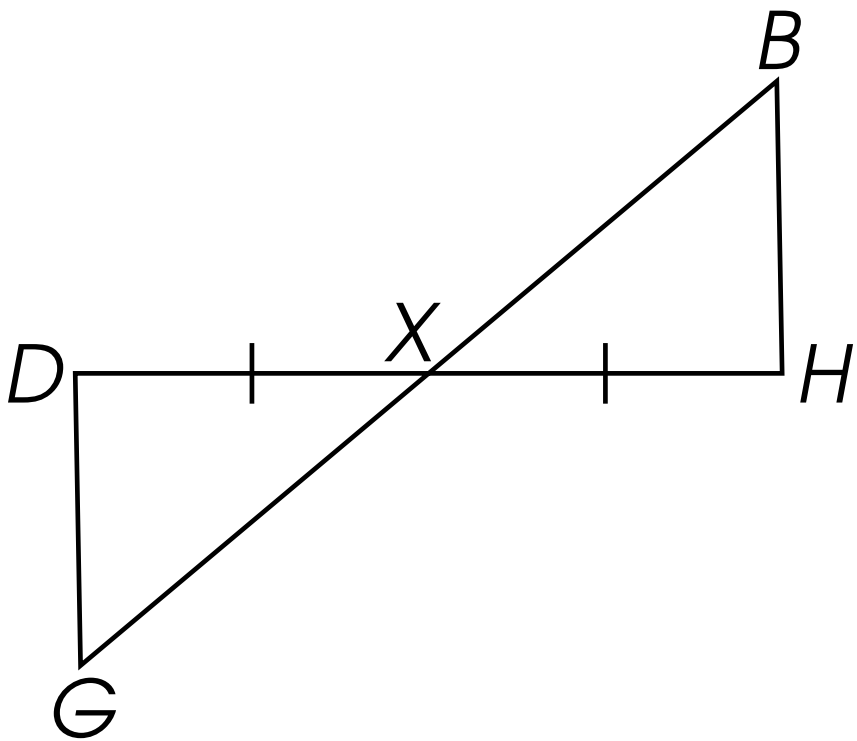
Example 20

The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



Example 20

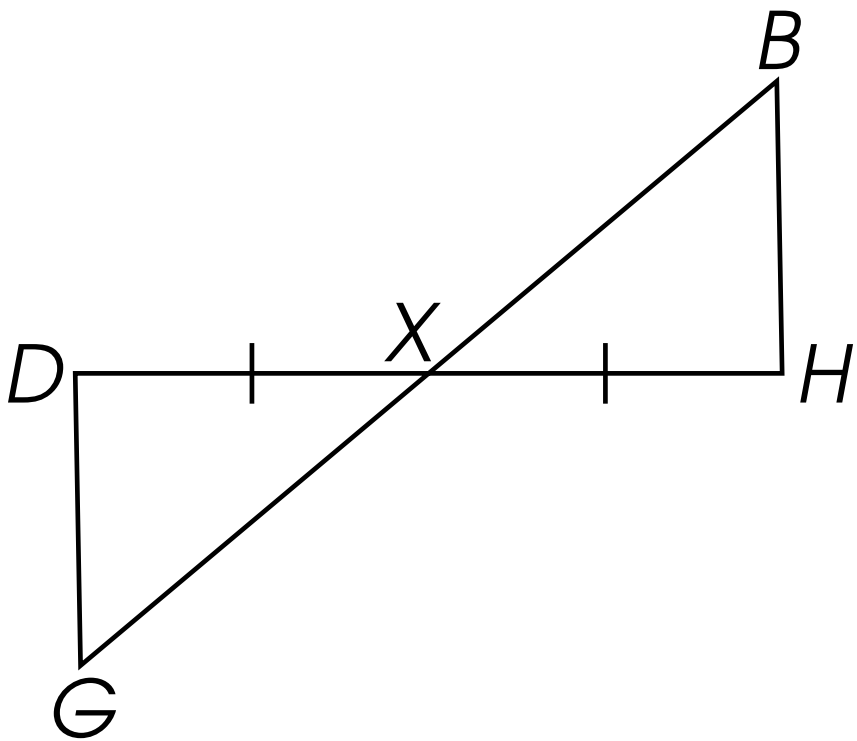
The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



$\angle D \cong$

Example 20

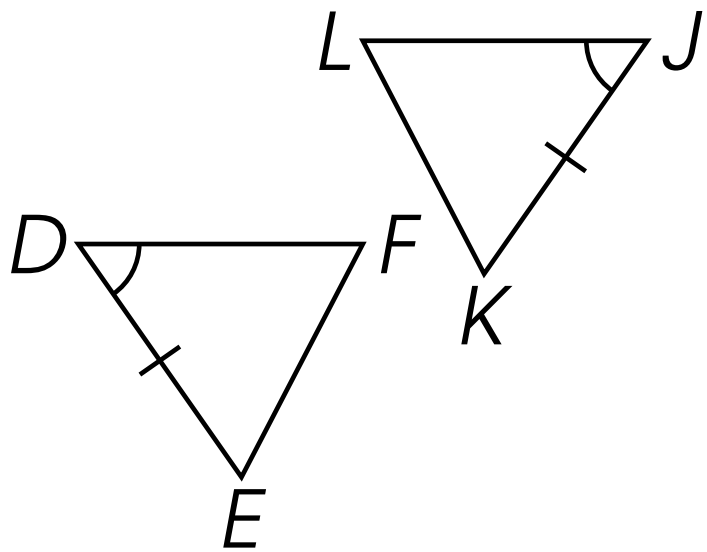
The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



$\angle D \cong \angle H$

Example 21

The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



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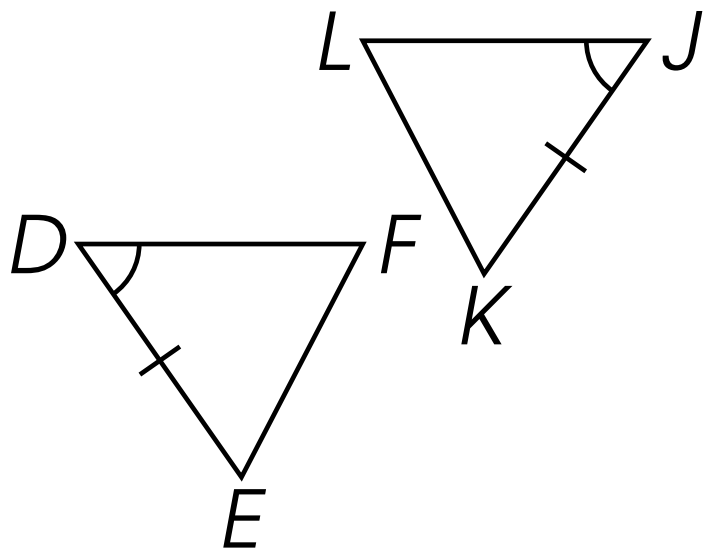
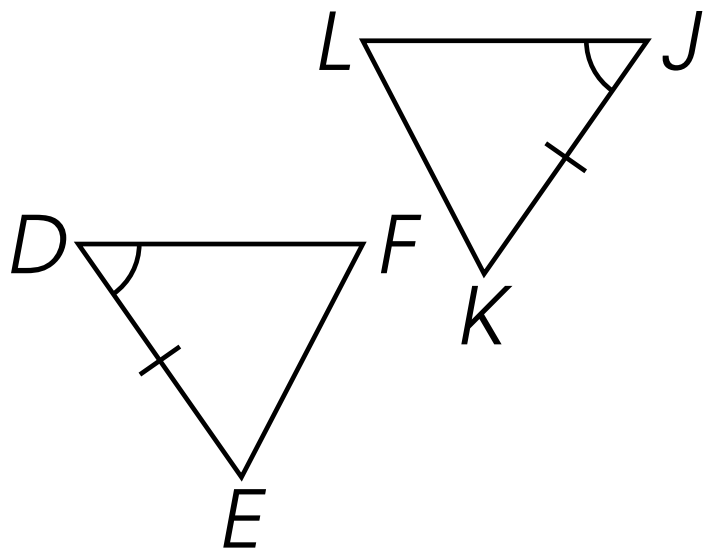
The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



$\angle E \cong$

Example 21

The figures are marked with their congruent parts. Determine the other congruent parts using the ASA congruence postulate.



$\angle E \cong \angle K$

Thank you for watching.