Name _____

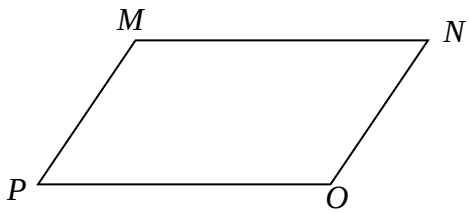
Block _____

Two-Column Proof Practice

Mark the given information on the diagram! Choose a statement and a reason for each step in the two-column proof from the list below each proof.

1) Given: $\overline{MN} \parallel \overline{PO}$, $\angle M \cong \angle O$

Prove: $\overline{MP} \parallel \overline{NO}$



Statement	Reason
1.	1.
2.	2.
3.	3.
4.	4.

Choose Statements and Reasons from this list:

$\angle M$ and $\angle P$ are supplementary

$\overline{MN} \parallel \overline{PO}$, $\angle M \cong \angle O$

same-side int $\angle$'s supp. $\rightarrow \parallel$ lines

$\overline{MP} \parallel \overline{NO}$

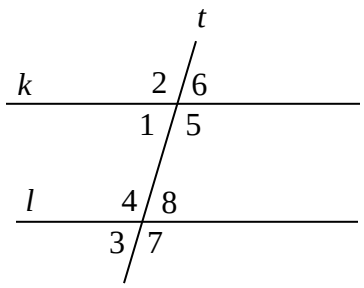
$\parallel$ lines $\rightarrow$ same-side int $\angle$'s supp.

Substitution

Given

$\angle O$ and $\angle P$ are supplementary

2) Given: $k \parallel l$
Prove: $\angle 1$ is supplementary to $\angle 7$

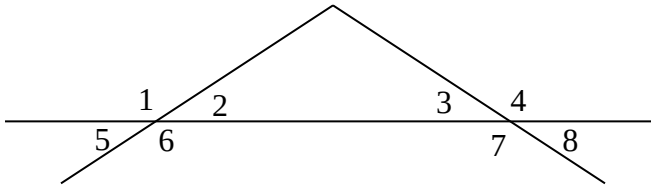


Statement	Reason
1.	1.
2.	2.
3.	3.
4.	4.

Choose Statements and Reasons from this list:

$\angle 4 \cong \angle 7$
Substitution
$k \parallel l$
$\parallel$ lines $\rightarrow$ same side int $\angle$'s supp.
Given
$\angle 1$ is supplementary to $\angle 4$
Vertical angles congruent
$\angle 1$ is supplementary to $\angle 7$

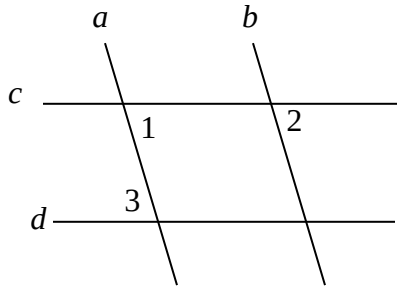
3) Given: $\angle 3 \cong \angle 2$
Prove: $\angle 4$ is supplementary to $\angle 5$



Statement	Reason
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

Choose Statements and Reasons from this list:

Substitution
Given
$\angle 4$ is supplementary to $\angle 3$
Def of Linear Pair
$\angle 3 \cong \angle 5$
$\angle 4$ is supplementary to $\angle 5$
$\angle 3 \cong \angle 2$
Vertical angles congruent
$\angle 2 \cong \angle 5$
Substitution

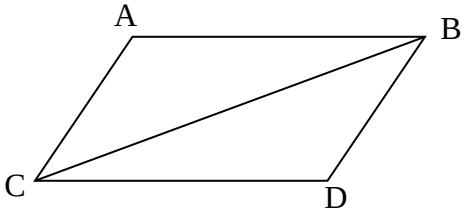


4) Given: $a \parallel b$, $\angle 2 \cong \angle 3$
Prove: $c \parallel d$

Statement	Reason
1.	1.
2.	2.
3.	3.
4.	4.

Choose Statements and Reasons from this list:

Substitution
$a \parallel b$, $\angle 2 \cong \angle 3$
$\parallel$ lines $\rightarrow$ corr. $\angle$'s $\cong$
Given
$\angle 1 \cong \angle 2$
$c \parallel d$
alt. int. $\angle$'s $\cong \rightarrow \parallel$ lines
$\angle 1 \cong \angle 3$



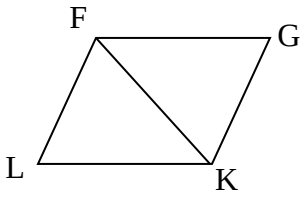
5) Given: $\overline{AB} \cong \overline{CD}$, $\overline{AC} \cong \overline{DB}$
Prove: $\Delta ABC \cong \Delta DCB$

Statement	Reason
1.	1.
2.	2.
3.	3.

Choose Statements and Reasons from this list:

$\overline{BC} \cong \overline{BC}$
Reflexive Property
SSS Congruence Postulate
$\overline{AB} \cong \overline{CD}$, $\overline{AC} \cong \overline{DB}$
$\Delta ABC \cong \Delta DCB$
Given

6) Given: $\overline{FG} \parallel \overline{KL}$, $\overline{FG} \cong \overline{KL}$
Prove: $\Delta FGK \cong \Delta KLF$

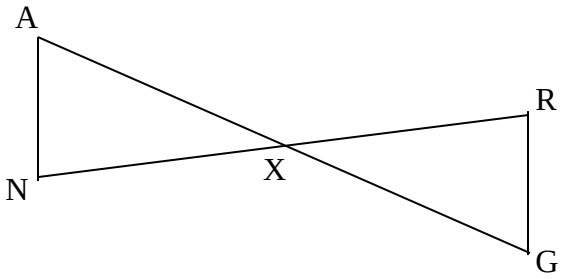


Statement	Reason
1.	1.
2.	2.
3.	3.
4.	4.

Choose Statements and Reasons from this list:

Reflexive Property
$\overline{FK} \cong \overline{FK}$
Given
$\parallel$ lines $\rightarrow$ alt. int. $\angle$'s $\cong$
$\angle FKL \cong \angle KFG$
$\overline{FG} \parallel \overline{KL}$, $\overline{FG} \cong \overline{KL}$
SAS Congruence Postulate
$\Delta FGK \cong \Delta KLF$

7) Given: X is the midpoint of $\overline{AG}$.
X is the midpoint of $\overline{NR}$.
Prove: $\Delta ANX \cong \Delta GRX$

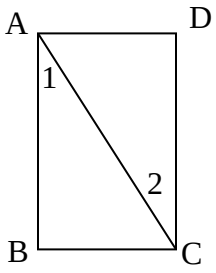


Statement	Reason
1.	1.
2.	2.
3.	3.
4.	4.

Choose Statements and Reasons from this list:

X is the midpoint of $\overline{AG}$; X is the midpoint of $\overline{NR}$
Definition of a Midpoint
SAS Congruence Theorem
Vertical Angles Theorem
Given
AX = GX; NX = RX
$\angle AXN \cong \angle GXR$
$\Delta ANX \cong \Delta GRX$

8) Given: $\overline{AB} \cong \overline{CD}$, $\overline{AB} \parallel \overline{CD}$
Prove: $\Delta ABC \cong \Delta CDA$

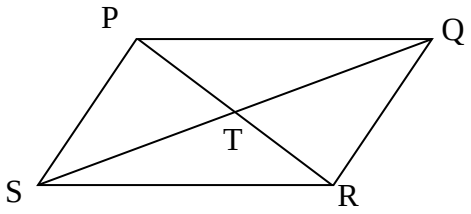


Statement	Reason
1.	1.
2.	2.
3.	3.
4.	4.

Choose Statements and Reasons from this list:

$\parallel$ lines $\rightarrow$ alt. int. $\angle$'s $\cong$
Given
$\overline{AB} \cong \overline{CD}$, $\overline{AB} \parallel \overline{CD}$
Reflexive Property
SAS Congruence Postulate
$\overline{AC} \cong \overline{AC}$
$\angle 1 \cong \angle 2$
$\Delta ABC \cong \Delta CDA$

9) Given: $\overline{PT} \cong \overline{RT}$, $\overline{QT} \cong \overline{ST}$
Prove: $\Delta PQT \cong \Delta RST$

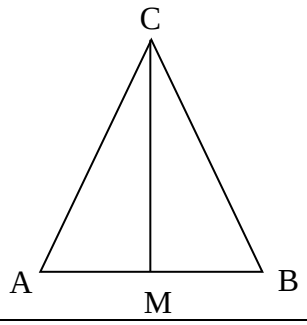


Statement	Reason
1.	1.
2.	2.
3.	3.

Choose Statements and Reasons from this list:

$\Delta PQT \cong \Delta RST$
Vertical Angles Theorem
SAS Congruence Theorem
$\overline{PT} \cong \overline{RT}$, $\overline{QT} \cong \overline{ST}$
Given
$\angle PTQ \cong \angle RTS$

10) Given: $\overline{AC} \cong \overline{BC}$, M is the midpoint of $\overline{AB}$
Prove: $\Delta ACM \cong \Delta BCM$

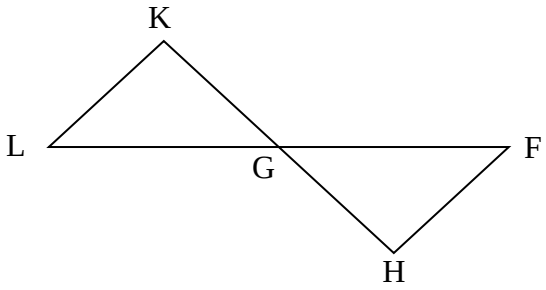


Statement	Reason
1.	1.
2.	2.
3.	3.
4.	4.

Choose Statements and Reasons from this list:

$\overline{AM} \cong \overline{BM}$
$\Delta ACM \cong \Delta BCM$
Definition of a midpoint
Given
SSS Congruence Postulate
$\overline{AC} \cong \overline{BC}$, M is the midpoint of $\overline{AB}$
Reflexive Property
$\overline{CM} \cong \overline{CM}$

11) Given: $\overline{FH} \parallel \overline{LK}$, $\overline{GF} \cong \overline{GL}$
Prove: $\Delta FGH \cong \Delta LGK$

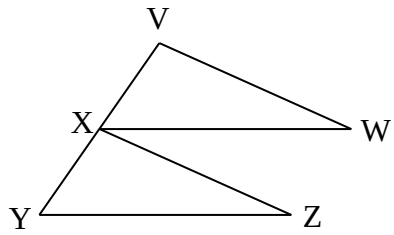


Statement	Reason
1.	1.
2.	2.
3.	3.
4.	4.

Choose Statements and Reasons from this list:

$\angle FGH \cong \angle LGK$
Given
$\overline{FH} \parallel \overline{LK}$, $\overline{GF} \cong \overline{GL}$
Vertical Angles Theorem
AAS Congruence Postulate
$\parallel$ lines $\rightarrow$ alt. int. $\angle$'s $\cong$
$\angle K \cong \angle H$
$\Delta FGH \cong \Delta LGK$

12) Given: $\overline{VX} \cong \overline{XY}$, $\overline{XW} \cong \overline{YZ}$, $\overline{XW} \parallel \overline{YZ}$
Prove: $\Delta VXW \cong \Delta XYZ$

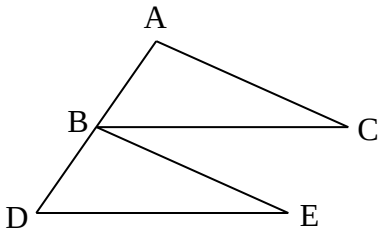


Statement	Reason
1.	1.
2.	2.
3.	3.

Choose Statements and Reasons from this list:

$\angle VXW \cong \angle VYZ$
Given
$\Delta VXW \cong \Delta XYZ$
$\overline{VX} \cong \overline{XY}$, $\overline{XW} \cong \overline{YZ}$, $\overline{XW} \parallel \overline{YZ}$
SAS Congruence Postulate
$\parallel$ lines $\rightarrow$ corr. $\angle$'s $\cong$

13) Given: B is the midpoint of $\overline{AD}$, $\angle C \cong \angle E$, $\overline{BC} \parallel \overline{DE}$
Prove: $\angle BAC \cong \angle DBE$



Statement	Reason
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

Choose Statements and Reasons from this list:

$\parallel$ lines $\rightarrow$ corr. $\angle$'s $\cong$
$\cong \Delta$'s $\rightarrow \cong$ parts
$\angle BAC \cong \angle DBE$
$\overline{AB} \cong \overline{BD}$
AAS Congruence Postulate
$\Delta TQS \cong \Delta RSQ$
B is the midpoint of $\overline{AD}$, $\angle C \cong \angle E$, $\overline{BC} \parallel \overline{DE}$
Definition of a midpoint
Given
$\angle EDB \cong \angle CBA$