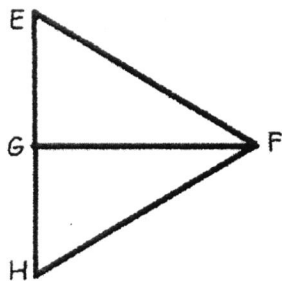


Geometry  
WS Proofs & Triangle Congruence

NAME \_\_\_\_\_  
PERIOD \_\_\_\_\_

#1 Given:  $\overline{FG} \perp \overline{EH}$   
 $\overline{FE} \cong \overline{FH}$

Prove:  $\overline{EG} \cong \overline{HG}$



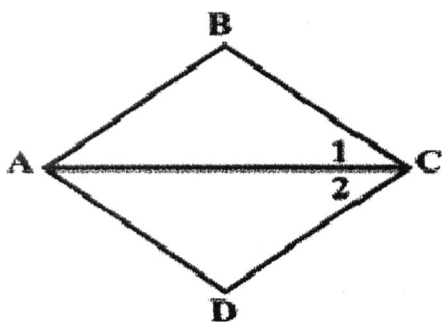
STATEMENT

REASON

- |  |                       |
|--|-----------------------|
| 1.   | 1. Given              |
| 2. $\triangle FGE, \triangle FGH$ are rt. $\triangle$ 's | 2.                    |
| 3.   | 3. Reflexive Property |
| 4. $\overline{FE} \cong \overline{FH}$                   | 4.                    |
| 5. $\triangle FGE \cong \triangle FGH$                   | 5.                    |
| 6.   | 6.                    |

#2 Given:  $\angle 1 \cong \angle 2$   
 $\overline{BC} \cong \overline{DC}$

Prove:  $\angle B \cong \angle D$



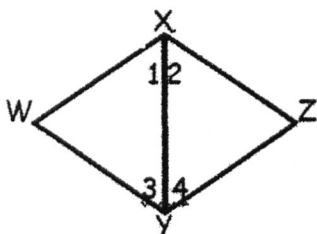
STATEMENT

REASON

- |  |          |
|--|----------|
| 1.                                     | 1. Given |
| 2. $\overline{BC} \cong \overline{DC}$ | 2.       |
| 3. $\overline{AC} \cong \overline{AC}$ | 3.       |
| 4. $\triangle ABC \cong$ _____         | 4.       |
| 5.                                     | 5.       |

#3 Given:  $\angle 1 \cong \angle 4, \angle 2 \cong \angle 3$

Prove:  $\triangle WXY \cong \triangle ZYX$



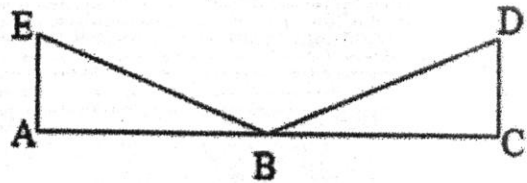
STATEMENT

REASON

- |  |          |
|--|----------|
| 1.                                     | 1. Given |
| 2. $\angle 2 \cong \angle 3$           | 2.       |
| 3. $\overline{XY} \cong \overline{YX}$ | 3.       |
| 4.                                     | 4.       |

Given:  $\overline{EB} \cong \overline{DB}$

$\angle A$  and  $\angle C$  are right angles, B is the midpoint of  $\overline{AC}$



P:  $\triangle ABE \cong \triangle CBD$

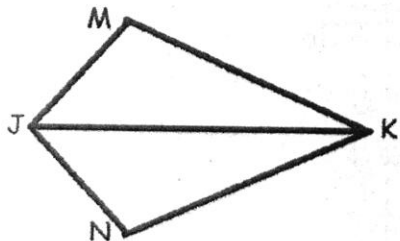
Statement

Reason

- |   |          |
|---|----------|
| 1.  | 1. Given |
| 2. $\angle A$ and $\angle C$ are right angles                   | 2.       |
| 3. $\triangle ABE$ and $\triangle CBD$ are right $\triangle$ 's | 3.       |
| 4. B is midpoint of $\overline{AC}$                             | 4.       |
| 5. $\overline{AB} \cong \overline{BC}$                          | 5.       |
| 6.  | 6.       |

Given:  $\overline{JM} \cong \overline{JN}$ ,  $\overline{MK} \cong \overline{NK}$

Prove:  $\angle M \cong \angle N$



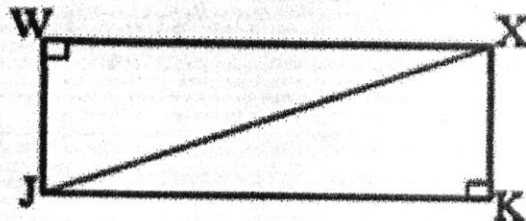
STATEMENT

REASON

- |  |    |
|--|----|
| 1. $\overline{JM} \cong \overline{JN}$ , $\overline{MK} \cong \overline{NK}$ | 1. |
| 2.   | 2. |
| 3. $\triangle JMK \cong$ _____   | 3. |
| 4.   | 4. |

G:  $\overline{WJ} \cong \overline{KX}$

$\angle JWX$  and  $\angle XKJ$  are right angles



P:  $\triangle JWX \cong \triangle XKJ$

Statement

Reason

- |  |                           |
|--|---------------------------|
| 1. $\overline{WJ} \cong \overline{KX}$ | 1.                        |
| 2.                                     | 2. Given                  |
| 3.                                     | 3. def. right $\triangle$ |
| 4.                                     | 4. Reflexive property     |
| 5.                                     | 5.                        |

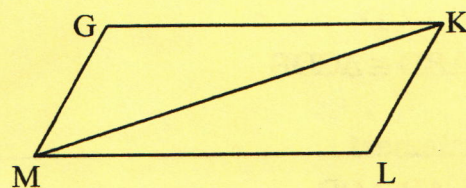


3. Given:  $\overline{GK} \cong \overline{ML}$ ,  $\angle GKM \cong \angle LMK$

Prove:  $\triangle GKM \cong \triangle LMK$

statements

1.  $\overline{GK} \cong \overline{ML}$ ,  $\angle GKM \cong \angle LMK$
2.  $\overline{MK} \cong \overline{MK}$
3.  $\triangle GKM \cong \triangle LMK$



reasons

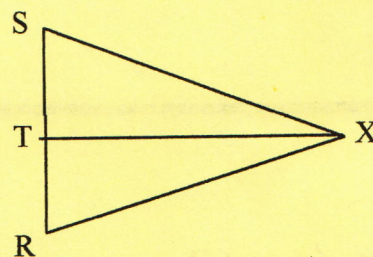
- 1.
- 2.
- 3.

4. Given:  $\angle S \cong \angle R$  and  $\overline{XT}$  bisects  $\angle SXR$

Prove:  $\triangle SXT \cong \triangle RXT$

statements

1.  $\angle S \cong \angle R$  and  $\overline{XT}$  bisects  $\angle SXR$
2.  $\angle SXT \cong \angle RXT$
3.  $\overline{XT} \cong \overline{XT}$
4.  $\triangle SXT \cong \triangle RXT$



reasons

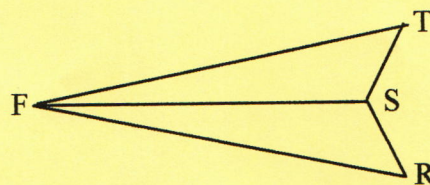
- 1.
- 2.
- 3.
- 4.

5. Given:  $\overline{FT} \cong \overline{FR}$  and  $\overline{ST} \cong \overline{SR}$

Prove:  $\triangle FTS \cong \triangle FRS$

statements

1.  $\overline{FT} \cong \overline{FR}$  and  $\overline{ST} \cong \overline{SR}$
- 2.
- 3.



reasons

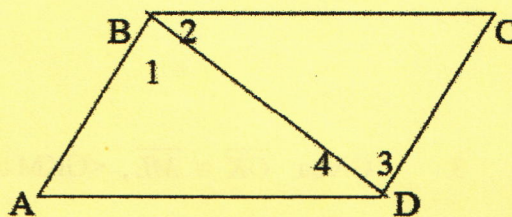
- 1.
2. Reflexive Property
- 3.



Given:  $AB \parallel CD$

$AB \cong CD$

Prove:  $\triangle ABD \cong \triangle CDB$



Statement

Reason

1.  $AB \parallel CD, AB \cong CD$

1. Given

2. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

3. \_\_\_\_\_

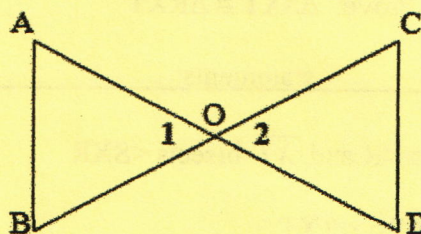
4.  $\triangle ABD \cong \triangle CDB$

4. \_\_\_\_\_

Given:  $\angle A \cong \angle D$

O is the midpoint of BC

Prove:  $\triangle ABO \cong \triangle DCO$



Statement

Reason

1.  $\angle A \cong \angle D$

1.

2.

2. Given

3.

3. Def. midpoint

4.

4.

5.

5.