

# Geometry Honors

$$\overline{AB} \cong \overline{BC}$$

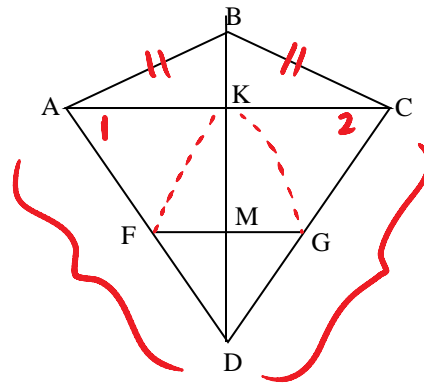
$$\overline{AD} \cong \overline{CD}$$

Given:

F is the midpoint of  $\overline{AD}$

G is the midpoint of  $\overline{CD}$

Prove:  $\overline{BD}$  is the  $\perp$  bisector of  $\overline{FG}$



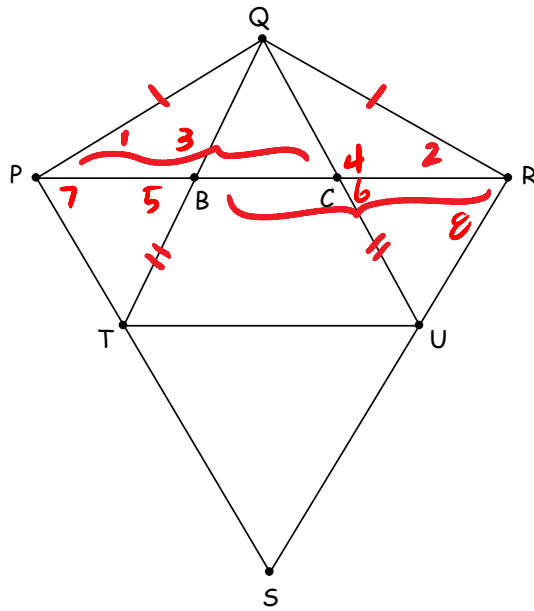
Statements

Reasons

1.  $\overline{AB} \cong \overline{BC}$  •
2.  $\overline{AD} \cong \overline{CD}$  •
3. F is the midpt. of  $\overline{AD}$
4. G is the midpt of  $\overline{CD}$
5.  $\overline{BD} \perp$  bisector of  $\overline{AC}$
6.  $\overline{KA} \cong \overline{KC}$  (S)
7. Draw  $\overline{KF}$  and  $\overline{KG}$
8.  $\angle 1 \cong \angle 2$  (A)
9.  $\overline{AF} \cong \overline{CG}$  (S)
10.  $\triangle AFK \cong \triangle CGK$
11.  $\overline{KF} \cong \overline{KG}$  (•)
12.  $\overline{FD} \cong \overline{DG}$  (•)
13.  $\overline{BD}$  is the  $\perp$  bisector  $\overline{FG}$

- 1 Given
2. " "
3. " "
- 4 " "
5. If 2 points are equidistant from the endpoints of a seg  $\rightarrow$  determine the  $\perp$  bis. of seg.
6. If a pt. lies on the  $\perp$  bis  $\rightarrow$  it is equidistant from the endpoints of seg
7. 2 pts determine a line
8. If  $\sphericalangle A \rightarrow \sphericalangle A$
9. Division prop.
10. SAS
11. CPCTC
12. Same as 9
- 13 Same as 5

1. Given:  $\overline{PC} \cong \overline{BR}$   
 $\overline{PQ} \cong \overline{QR}$   
 $\overline{BT} \cong \overline{CU}$
- Prove:  $\overline{TS} \cong \overline{US}$



1.  $\overline{PC} \cong \overline{BR}$
2.  $\overline{PQ} \cong \overline{QR}$  (S)
3.  $\overline{BT} \cong \overline{CU}$  (S)
4.  $\overline{PB} \cong \overline{CR}$  (S) (S)
5.  $\angle 1 \cong \angle 2$  (A)
6.  $\triangle QPB \cong \triangle QRC$
7.  $\angle 3 \cong \angle 4$
8.  $\angle 3$  supp.  $\angle 5$   
 $\angle 4$  supp.  $\angle 6$
9.  $\angle 5 \cong \angle 6$  (A)
10.  $\triangle PBT \cong \triangle RCU$
11.  $\angle 7 \cong \angle 8$
12.  $\overline{PS} \cong \overline{RS}$
13.  $\overline{PT} \cong \overline{RU}$
14.  $\overline{TS} \cong \overline{US}$

1. Given
2. " "
3. " "
4. Subtraction prop
5. If  $\triangle \rightarrow \triangle$
6. SAS
7. CPCTC
8. If 2  $\angle$ 's form a str.  $\angle$   
 $\rightarrow \angle$ 's supp.
9. If 2  $\angle$ 's are supp. to  $\cong$   
 $\angle$ 's  $\rightarrow \angle$ 's  $\cong$
10. SAS
11. CPCTC
12. If  $\triangle \rightarrow \triangle$
13. CPCTC
14. Subtraction prop.