

# Unit 4b Day 7

Perpendicular Bisectors in Triangles

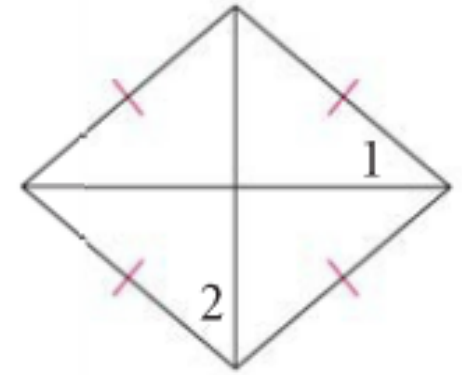
# Warm Up Day 7

41. In isosceles  $\triangle ABC$ , the vertex angle is  $\angle A$ . What can be proved?

- A.  $AB = CB$                       B.  $\angle A \cong \angle B$   
 C.  $m\angle B = m\angle C$             D.  $\overline{BC} \cong \overline{AC}$

42. In the diagram at the right,  $m\angle 1 = 40$ . What is  $m\angle 2$ ?

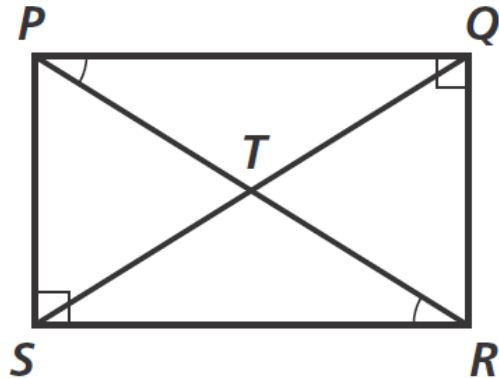
- F. 40                      G. 50                      H. 80                      J. 100



## Write a proof

43. **Given:**  $\angle QPR \cong \angle SRP$   
 $\angle PSR$  and  $\angle PQR$  are right angles,

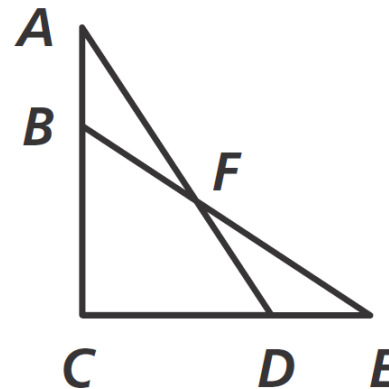
Prove:  $\triangle STR \cong \triangle QTP$



## Write the key steps for the proof

44. **Given:**  $\overline{AB} \cong \overline{ED}$ ,  
 $\overline{BC} \cong \overline{DC}$

Prove:  $\triangle ABF \cong \triangle EDF$



**Challenge: Complete the proof for #44**

# Warm Up Answers Day 7

41. In isosceles  $\triangle ABC$ , the vertex angle is  $\angle A$ . What can be proved?

A.  ~~$AB = CB$~~

B.  ~~$\angle A = \angle B$~~

C.  $m\angle B = m\angle C$

D.  $\overline{BC} \cong \overline{AC}$

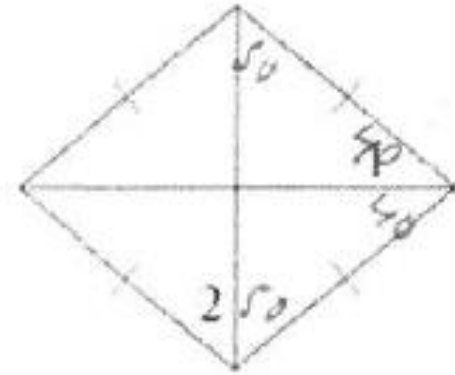
42. In the diagram at the right,  $m\angle 1 = 40$ . What is  $m\angle 2$ ?

F. 40

G. 50

H. 80

J. 100



43. In an isosceles triangle, the measure of the vertex

## Warm Up Proof ANSWERS Day 7

**43.** Given:  $\angle PSR$  and  $\angle PQR$  are right angles,  $\angle QPR \cong \angle SRP$

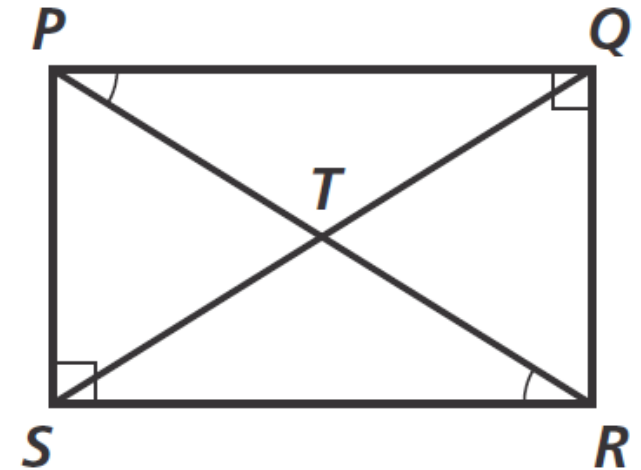
Prove:  $\triangle STR \cong \triangle QTP$

### Statements

- $\angle PSR$  and  $\angle PQR$  are right  $\angle$ s;  
 $\angle QPR$  and  $\angle SRP$
- $\angle PSR$  and  $\angle PQR$
- $\overline{PR} \cong \overline{PR}$
- $\triangle QPR \cong \triangle SRP$
- $\angle STR \cong \angle QTP$
- $\overline{PQ} \cong \overline{RS}$
- $\triangle STR \cong \triangle QTP$

### Reasons

- Given
- Right  $\angle$ s are congruent.
- Reflexive Property of  $\cong$
- AAS Theorem
- Vertical  $\angle$ s are  $\cong$ .
- CPCTC
- AAS Theorem

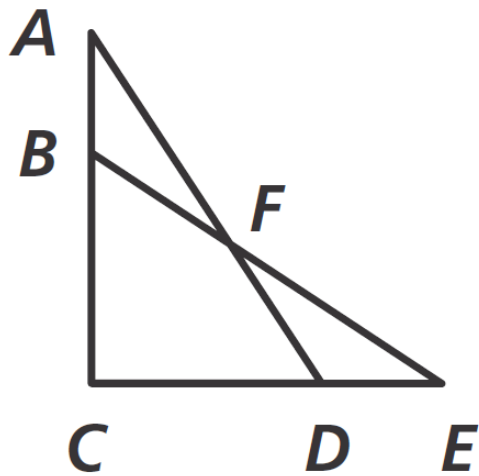


## Warm Up Proof ANSWERS Day 7

Write the key steps for the proof

44. Given:  $\overline{AB} \cong \overline{ED}$ ,  
 $\overline{BC} \cong \overline{DC}$

Prove:  $\triangle ABF \cong \triangle EDF$



Sample: Prove  $\triangle ACD$

$\cong \triangle ECB$  by the SAS Postulate. Then use CPCTC and vertical angles to show  $\triangle ABF \cong \triangle EDF$  by the AAS Theorem.

# HW Discussion

# Perpendicular Bisectors in Triangles

## Notes

- In ISNB

# Classwork on Perpendicular Bisectors in Triangles

- Worksheet
- What is not completed will be HW