

Name:

Date:

Pd:

Suppose $\triangle BIG \cong \triangle TOP$. Complete

1. $\overline{IG} \cong$ _____

2. _____ = TO

3. $\angle I \cong$ _____

4. _____ = $m\angle P$

5. _____ $\cong \triangle OPT$

6. $\triangle IBG \cong$ _____

Complete each statement with the word *always*, *sometimes*, or *never*.

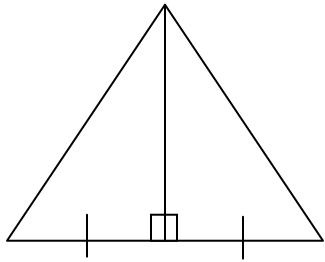
7. If three angles of one triangle are congruent to three angles of another triangle, then the triangles are _____ congruent.

8. If three sides of one triangle are congruent to three sides of another triangle, then the triangles are _____ congruent.

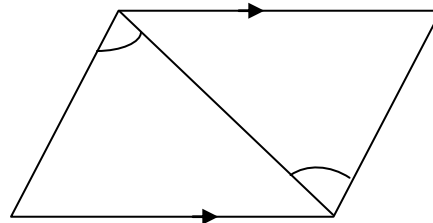
9. Given $\triangle ABC$ with right angle C and $\triangle DEF$ with $\triangle ABC \cong \triangle DEF$, then $\angle D$ is _____ congruent to $\angle C$.

Can the two triangles be proved congruent? If so, name the postulate or theorem. If not, write *no congruence can be deduced*.

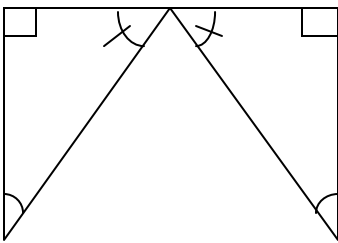
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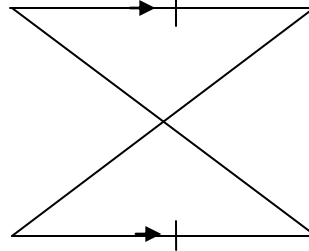
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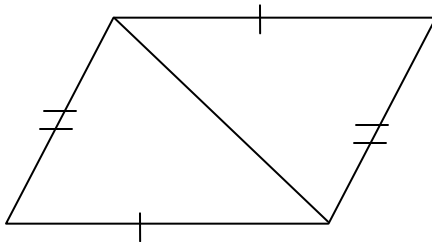
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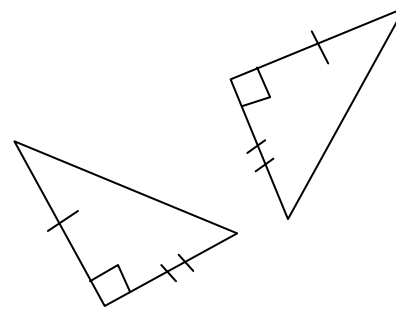
13.



14.



15.



All of the statements and reasons for the following proofs have been provided. Number the statements and the reasons in an appropriate order. (There may be more than one correct answer)

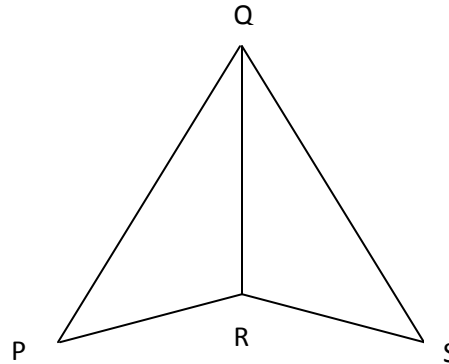
16. Given:

$$\overline{PR} \cong \overline{SR}$$

$$\overline{PQ} \cong \overline{SQ}$$

Prove:

$$\angle P \cong \angle S$$



Statements

- () $\overline{QR} \cong \overline{QR}$
- () $\triangle PQR \cong \triangle SQR$
- () $\overline{PQ} \cong \overline{SQ}$
- () $\angle P \cong \angle S$
- () $\overline{PR} \cong \overline{SR}$

Reasons

- () SSS Post.
- () Corr. Parts of $\cong \Delta$'s are \cong
- () Reflexive Property
- () Given
- () Given

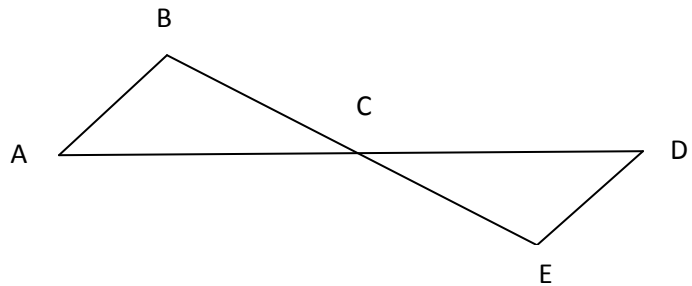
17. Given:

C is the midpoint of \overline{AD}

$$\angle A \cong \angle D$$

Prove:

$$\overline{BC} \cong \overline{EC}$$



Statements:

- () $\overline{AC} \cong \overline{DC}$
- () $\overline{BC} \cong \overline{EC}$
- () C is the midpoint of \overline{AD}
- () $\angle ACB \cong \angle DCE$
- () $\angle A \cong \angle D$
- () $\triangle ABC \cong \triangle DEC$

Reasons

- () Corr. Parts of $\cong \Delta$'s are \cong
- () Vertical Angles are \cong
- () ASA Postulate
- () Given
- () Def. of Midpoint
- () Given

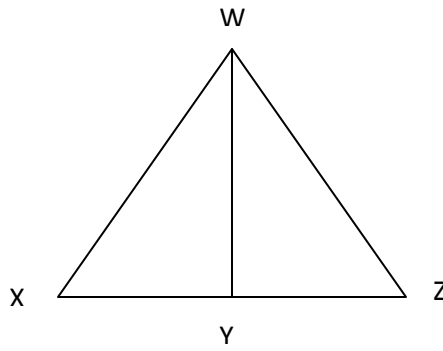
18. Given:

$$\overline{WY} \perp \overline{XZ}$$

$$\overline{XY} \cong \overline{YZ}$$

Prove:

$$\angle X \cong \angle Z$$



Statements

- () $\overline{WY} \cong \overline{WY}$
- () $\angle XYW \cong \angle ZYW$
- () $\overline{WY} \perp \overline{XZ}$
- () $\angle X \cong \angle Z$
- () $\triangle XYW \cong \triangle ZYW$
- () $\overline{XY} \cong \overline{YZ}$

Reasons

- () Given
- () Corr Parts of $\cong \Delta$'s are \cong
- () SAS Postulate
- () Given
- () Reflexive Property
- () If two lines are \perp , then they form \cong adj. \angle 's

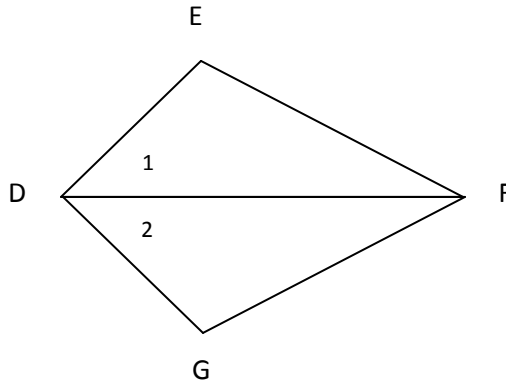
19. Given:

$$\overline{DF} \text{ bisects } \angle EDG$$

$$\overline{DE} \cong \overline{DG}$$

Prove:

$$\angle E \cong \angle G$$



Statements

1. \overline{DF} bisects $\angle EDG$
2. _____
3. $\angle 1 \cong \angle 2$
4. $\overline{DF} \cong \overline{DF}$
5. Δ _____ $\cong \Delta$ _____
6. _____

Reasons

1. _____
2. Given
3. _____
4. _____
5. _____
6. _____

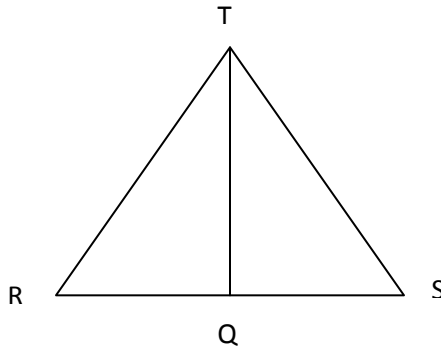
20. Given:

$$\overline{RQ} \cong \overline{QS}$$

$$\overline{RT} \cong \overline{TS}$$

Prove:

$$\overline{TQ} \perp \overline{RS}$$



Statements

1. _____

2. _____

3. $\overline{TQ} \cong \overline{TQ}$

4. $\triangle RQT \cong \triangle SQT$

5. $\angle RQT \cong \angle SQT$

6. _____

Reasons

1. Given

2. Given

3. _____

4. _____

5. _____

6. _____

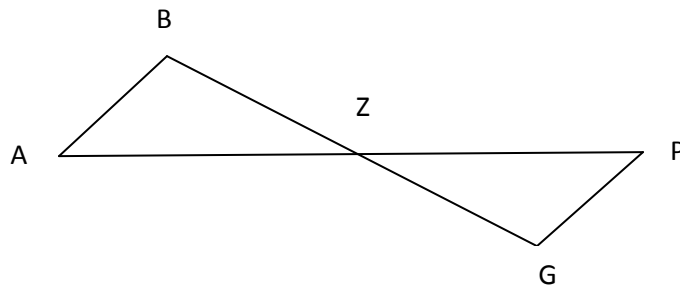
21. Given:

$$\overline{AB} \parallel \overline{PG}$$

$$\overline{AB} \cong \overline{PG}$$

Prove:

$$\overline{BZ} \cong \overline{ZG}$$



Statements

1. _____

2. _____

3. _____

4. $\angle A \cong \angle P$

5. _____

6. _____

Reasons

1. Given

2. Given

3. If two parallel lines are cut by a transversal, then alternate interior angles are congruent.

4. _____

5. _____

6. _____