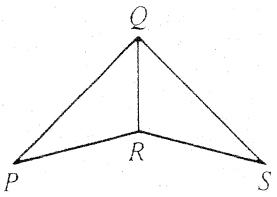
Geometry Worksheet 4.3.A

1

2. Given: $\overline{PR} \cong \overline{SR}$; $\overline{PQ} \cong \overline{SQ}$

Prove: $\angle P \cong \angle S$

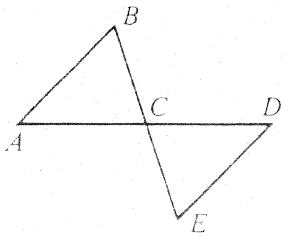


Statements	Reasons
(___) $\overline{QR} \cong \overline{QR}$	(___) Reflexive Prop.
(___) $\triangle PQR \cong \triangle SQR$	(___) SSS Post.
(___) $\overline{PR} \cong \overline{SR}$; $\overline{PQ} \cong \overline{SQ}$	(___) Corr. parts of $\cong$ $\triangle$s are $\cong$.
(___) $\angle P \cong \angle S$	(___) Given

2

3. Given: C is the midpoint of $\overline{AD}$; $\angle A \cong \angle D$

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

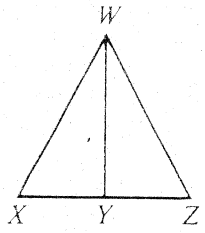


Statements	Reasons
(___) $\overline{AC} \cong \overline{CD}$	(___) Corr. parts of $\cong$ $\triangle$s are $\cong$.
(___) $\overline{BC} \cong \overline{EC}$	(___) Vertical $\angle$s are $\cong$.
(___) C is the midpt. of $\overline{AD}$; $\angle A \cong \angle D$	(___) ASA Post.
(___) $\angle ACB \cong \angle DCE$	(___) Def. of midpoint
(___) $\triangle ABC \cong \triangle DEC$	(___) Given

3

4. Given: $\overline{WY} \perp \overline{XZ}$; $\overline{XY} \cong \overline{YZ}$

Prove: $\angle X \cong \angle Z$



Statements	Reasons
(___) $\overline{WY} \cong \overline{WY}$	(___) If 2 lines are $\perp$, then they form $\cong$ adj. $\angle$s.
(___) $\angle XYW \cong \angle ZYW$	(___) Corr. parts of $\cong$ $\triangle$s are $\cong$.
(___) $\angle X \cong \angle Z$	(___) SAS Post.
(___) $\triangle XYW \cong \triangle ZYW$	(___) Given
(___) $\overline{WY} \perp \overline{XZ}$; $\overline{XY} \cong \overline{YZ}$	(___) Reflexive Prop.

The statements in Exercise 4 might be used as statements in a proof but they are given out of order. Find an appropriate order for the statements. (There may be more than one correct order.) Also provide reasons.

4

5. Given: $\overline{AM} \cong \overline{BM}$; $\overline{TM} \perp \overline{AB}$

Prove: $\overline{AT} \cong \overline{BT}$

(a) $\overline{AM} \cong \overline{BM}$

(b) $\triangle AMT \cong \triangle BMT$

(c) $\angle 1 \cong \angle 2$

(d) $\overline{AT} \cong \overline{BT}$

(e) $\overline{TM} \perp \overline{AB}$

(f) $\overline{TM} \cong \overline{TM}$