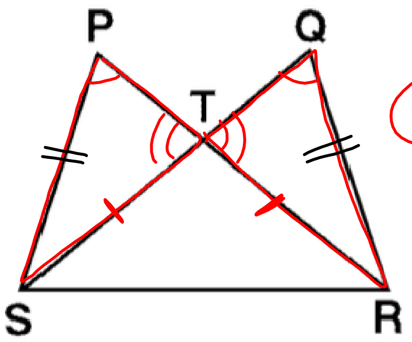
DO NOW

Given: $\overline{TS} \cong \overline{TR}$

$\angle P \cong \angle Q$

Prove: $\overline{PS} \cong \overline{QR}$



AAS

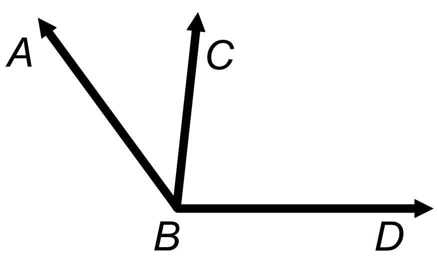
STATEMENTS	REASONS
1) $\overline{TS} \cong \overline{TR}$, $\angle P \cong \angle Q$	1) Given
2) $\angle PTS \cong \angle QTR$	2) Vertical $\angle$'s are $\cong$
3) $\triangle PTS \cong \triangle QTR$	3) AAS
4) $\overline{PS} \cong \overline{QR}$	4) CPCTC

PARTITION POSTULATE

A whole is equal to the sum of its parts

EX 1: $AB + BC = AC$

EX 2: $m\angle ABC + m\angle CBD = m\angle ABD$



ADDITION POSTULATE

If $a = b$ and $c = d$, then $a + c = b + d$

*If equals are added to equals, the sums are equal *

SUBTRACTION POSTULATE

If $a = b$ and $c = d$, then $a - c = b - d$

If equals are subtracted from equals, the differences are equal

MULTIPLICATION POSTULATE

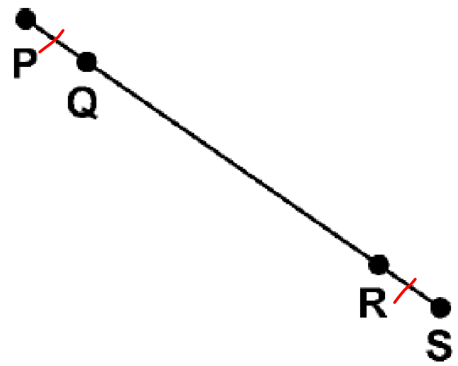
If a = b and c = d, then ac = bd

DIVISION POSTULATE

If a = b and c = d, then $\frac{a}{c} = \frac{b}{d}$

Given: PQ = RS

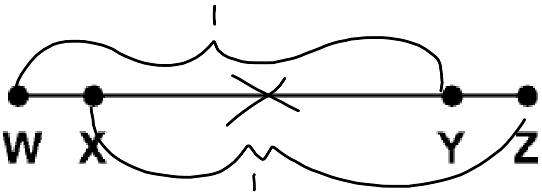
Prove: PR = QS



STATEMENTS	REASONS
(1) PQ = RS	(1) Given
(2) QR = QR	(2) Reflexive property
(3) PQ+QR = QR+RS	(3) Addition property
(4) PR = QS	(4) Partition postulate

Given: WY = XZ

Prove: WX = YZ

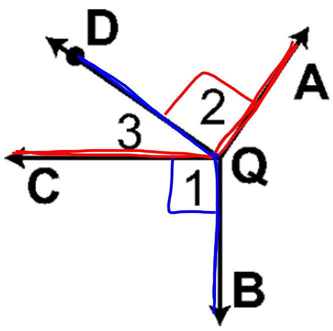


STATEMENTS	REASONS
(1) WY = XZ	(1) Given
(2) WX+XY = XY+YZ	(2) Partition postulate
(3) XY = XY	(3) Reflexive property
(4) WX = YZ	(4) Subtraction property

Given: $\overrightarrow{QA} \perp \overrightarrow{QD}$

$\overrightarrow{QB} \perp \overrightarrow{QC}$

Prove: ∠AQC ≅ ∠BQD

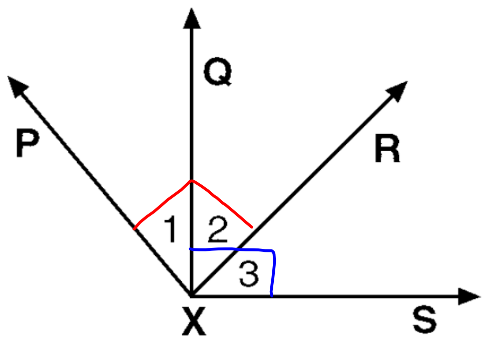


STATEMENTS	REASONS
(1) $\overrightarrow{QA} \perp \overrightarrow{QD}$, $\overrightarrow{QB} \perp \overrightarrow{QC}$	(1) Given
(2) ∠1 and ∠2 are right angles.	(2) ⊥ lines form right ∠'s
(3) ∠1 ≅ ∠2	(3) All right ∠'s are ≅
(4) ∠3 ≅ ∠3	(4) Reflexive property
(5) ∠1 + ∠3 ≅ ∠2 + ∠3	(5) Addition property
6) ∠AQC ≅ ∠BQD	(6) whole is equal to the sum of its parts

Given: $\overrightarrow{XP} \perp \overrightarrow{XR}$

$\overrightarrow{XQ} \perp \overrightarrow{XS}$

Prove: $\angle 1 \cong \angle 3$



STATEMENTS	REASONS
1) $\overline{XP} \perp \overline{XR}$, $\overline{XQ} \perp \overline{XS}$	1) Given
2) $\angle PXR$ + $\angle QXS$ are right $\angle$'s	2) $\perp$ lines form right $\angle$'s
3) $\angle PXR \cong \angle QXS$	3) All right $\angle$'s are $\cong$
4) $\angle 1 + \angle 2 \cong \angle 2 + 3$	4) Partition
5) $\angle 2 \cong \angle 2$	5) Reflexive
6) $\angle 1 \cong \angle 3$	6) Subtraction