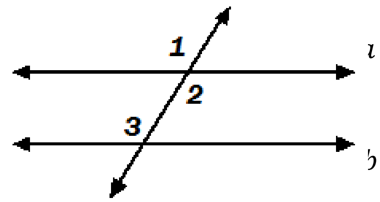
2.7

1) Proof of Theorem 2.14 (Alternate Interior Angles Theorem):

If ∥ lines, then alt. int. ∠s ≅.



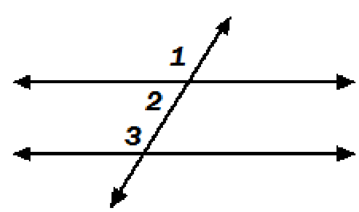
Given: $a \parallel b$

Prove: $\angle 2 \cong \angle 3$

Statements	Reasons

2) Proof of Theorem 2.15 (Consecutive Interior Angles Theorem):

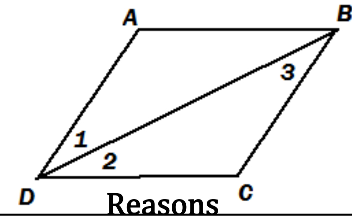
If ∥ lines, then consec. int. ∠s are supplementary.



Given: $a \parallel b$

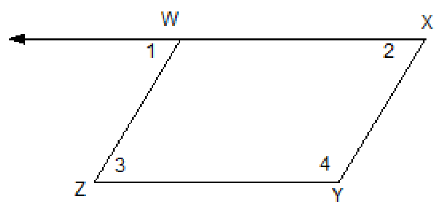
Prove: $\angle 2$ is supplementary to $\angle 3$

Statements	Reasons



3) Given: $\overline{AD} \parallel \overline{BC}, \angle 1 \cong \angle 2$
Prove: $\angle 2 \cong \angle 3$

Statements	Reasons

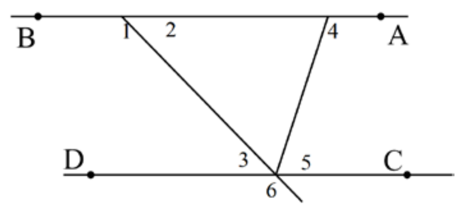


4) Given: $\overline{WZ} \parallel \overline{XY}$

$\overline{WX} \parallel \overline{ZY}$

Prove: $\angle 2 \cong \angle 3$

Statements	Reasons



5) Given: $\overline{AB} \parallel \overline{CD}$

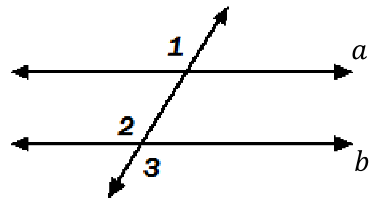
Prove: $\angle 2$ is supp to $\angle 6$

Statements	Reasons

2.9

6) Proof of Theorem 2.20 (Alternate Exterior Angles Converse):

If alt. ext. $\angle$s $\cong$, then $\parallel$ lines.



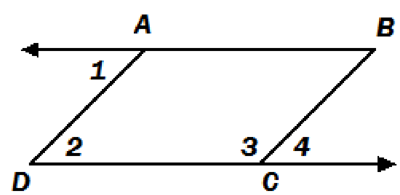
Given: $\angle 1 \cong \angle 3$

Prove: $a \parallel b$

Statements	Reasons

7) *Given:* $\overline{AB} \parallel \overline{CD}$, $\angle 1 \cong \angle 4$

Prove: $\overline{AD} \parallel \overline{BC}$

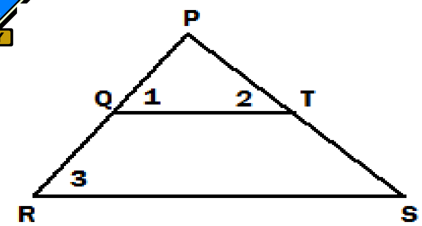


Statements	Reasons

8) **Given:** $\angle 1 \cong \angle 2$

$\angle 3 \cong \angle 2$

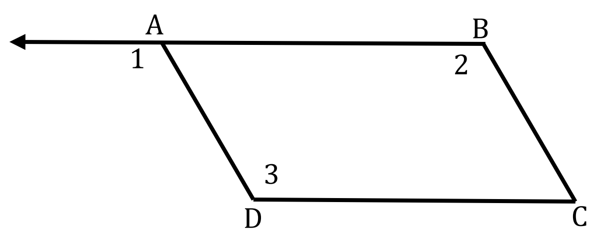
Prove: $\overline{QT} \parallel \overline{RS}$



Statements	Reasons

9) Given: $\overline{AD} \parallel \overline{BC}$ and $\angle 2 \cong \angle 3$

Prove: $\overline{AB} \parallel \overline{DC}$



Statements	Reasons