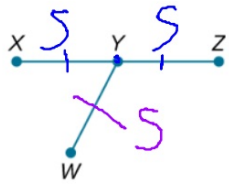
w/b pg 158 bottom

Check

Given that Y is the midpoint of $\overline{XZ}$ and $\overline{XY} \cong \overline{WY}$, write a paragraph proof to show that $\overline{WY} \cong \overline{YZ}$



Given: Y is the midpoint of $\overline{XZ}$; $\overline{XY} \cong \overline{WY}$

Prove: $\overline{WY} \cong \overline{YZ}$

$XY = WY$ | $WY = XY$

Proof:

Because Y is the midpoint of $\overline{XZ}$, $\overline{WY} \cong \overline{YZ}$ by the [Midpoint Theorem].

$\overline{XY} \cong \overline{WY}$ is given. By the definition of [Congruence], $XY = WY$ and $XY = YZ$. By the [Symmetric] Property of Equality $XY = WY$ can be written as $WY = XY$. By the [Transitive] Property of Equality, $WY = YZ$. By the definition of [Congruence], $\overline{WY} \cong \overline{YZ}$.

w/b pg 164 top

Complete the two-column proof.

Given: $\overline{QT} \cong \overline{RV}$

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

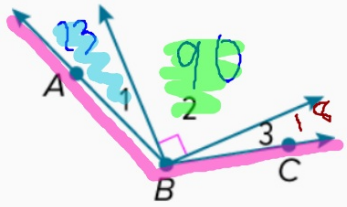
Proof:

Statements	Reasons
1. $\overline{QT} \cong \overline{RV}$	1. Given
2. QT=RV	2. Definition of congruence
3. $QR + RT = QT$; $RT + TV = RV$	3. Segment Addition
4. QR + RT = RT + TV	4. Substitution
5. $QR + RT - RT = RT + TV - RT$	5. Subtraction Property of Equality
6. $QR = TV$	6. Substitution
7. $\overline{QR} \cong \overline{TV}$	7. Definition of congruence

w/b pg 171 bottom

What is $m\angle 3$ if $m\angle 1 = 23°$ and $m\angle ABC = 131°$?

Choose from the reasons provided to justify each step.



$m\angle 1 + m\angle 2 + m\angle 3 = m\angle ABC$	Angle Addition
$23° + 90° + m\angle 3 = 131°$	Substitution
$113° + m\angle 3 = 131°$	Substitution
$113° + m\angle 3 - 113° = 131° - 113°$	Subtraction
$m\angle 3 = 18°$	Substitution

combine like terms
simplify

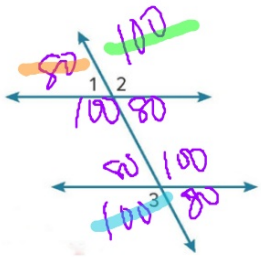
w/b pg 174 bottom

Check

Write a paragraph proof.

Given: ∠1 and ∠3 are supplementary.

Prove: ∠2 ≅ ∠3



It is given that ∠1 and ∠3 are **supplementary**.

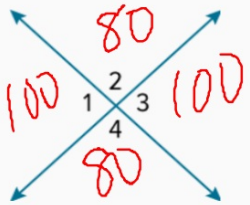
By the definition of linear pair, ∠1 and ∠2 are a linear pair. So, by the **Supplement Theorem**, ∠1 and ∠**2** are supplementary.

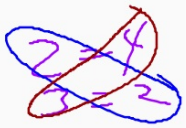
Thus, ∠2 ≅ ∠3 by the **Congruent Supplements Theorem**.

Complete the proof.

Given: $\angle 1 \cong \angle 2$

Prove: $\angle 3 \cong \angle 4$





w/b pg 175 top

Statements	Reasons
1. $\angle 1 \cong \angle 2$	1. Given
2. $\angle 1 \cong \angle 3$, $\angle 2 \cong \angle 4$	2. vertical angles
3. $\angle 3 \cong \angle 1$	3. symmetric prop
4. $\angle 3 = \angle 2$	4. transitive prop
5. $\angle 3 \cong \angle 4$	5. transitive prop