THEOREM 2.1 Midpoint Theorem

PROPERTIES OF CONGRUENT SEGMENTS

- A true statement that follows as a result of the other true statements is called a ______.
- > All theorems must be proved. You can prove a theorem using a ______.
- > Definition: **congruent**

Property	Segment Measure
Reflexive	
Symmetric	
Transitive	

1) Symmetric Property of Segment Congruence

Given: $\overline{PQ} \cong \overline{XY}$

Prove: $\overline{XY} \cong \overline{PQ}$	Y Q
STATEMENTS	REASONS
1.	1.
2.	2.
3.	3.
4.	4.

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THEOREM 2.2 Properties of Segment Congruence

Segment congruence is,	, and			
Here are some examples:				
REFLEXIVE:				
SYMMETRIC:				
TRANSITIVE:				
2) Using Congruence				
GIVEN: $\overline{RT} \cong \overline{WY}$, ST = WX	R S T			
PROVE: $\overline{RS} \cong \overline{XY}$	W X Y			
STATEMENTS	REASONS			
1.	1. Given			
2. RT = WY	2.			
3. $RT = RS + ST$; $WY = WX + XY$	3. Algebra			
4. $RS + ST = WX + XY$	4. Substitution			
5. ST = WX	5.			
6. RS = XY	6.			

7.



7. Definition of Congruent Segments

Given: X is the midpoint of \overline{MN} , and MX = RX Prove: XN = RX

S	TATEMENTS		REASONS
1.		1.	
2.		2.	
3.		3.	
4.		4.	

4) In the diagram, if $\overline{AB} \cong \overline{BC}$ and $\overline{BC} \cong \overline{CD}$ find BC.



STATEMENTS	REASONS