

2.6 Practice – Geometric Proofs Part 2

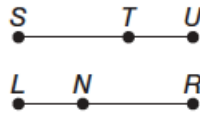
IMPORTANT POSTULATES/RULES TO KNOW AND HOW TO USE THEM.

- Segment addition postulate
- Definition of congruence, midpoints, etc.
- Substitution/transitive property

Complete the proofs below.

1.

Given: $\overline{SU} \cong \overline{LR}$
 $\overline{TU} \cong \overline{LN}$

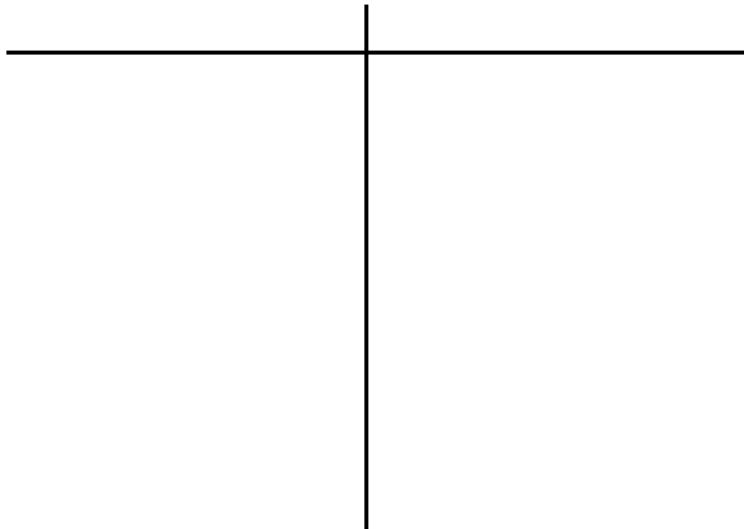


Prove: $\overline{ST} \cong \overline{NR}$

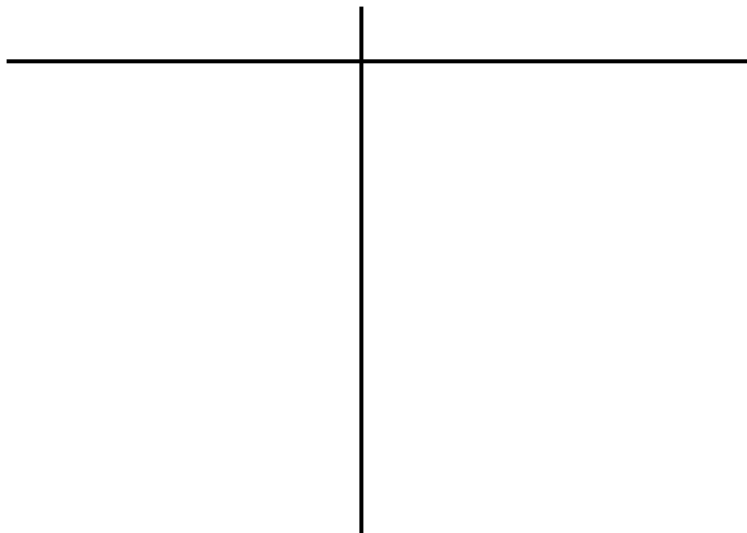
Proof:

Statements	Reasons
a. $\overline{SU} \cong \overline{LR}, \overline{TU} \cong \overline{LN}$	a. _____
b. _____	b. Definition of \cong segments
c. $SU = ST + TU$ $LR = LN + NR$	c. _____
d. $ST + TU = LN + NR$	d. _____
e. $ST + LN = LN + NR$	e. _____
f. $ST + LN - LN = LN + NR - LN$	f. _____
g. _____	g. Substitution Property
h. $\overline{ST} \cong \overline{NR}$	h. _____

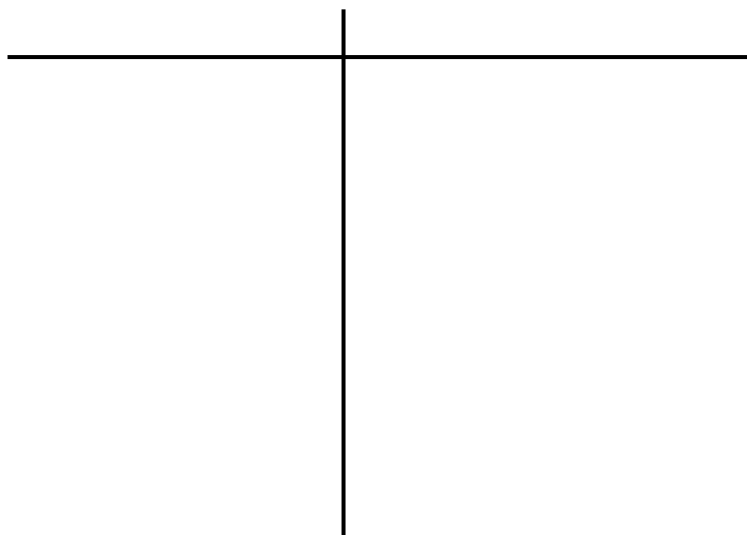
2. Given: T is the midpoint of segment SU.
 Prove: $x=5$



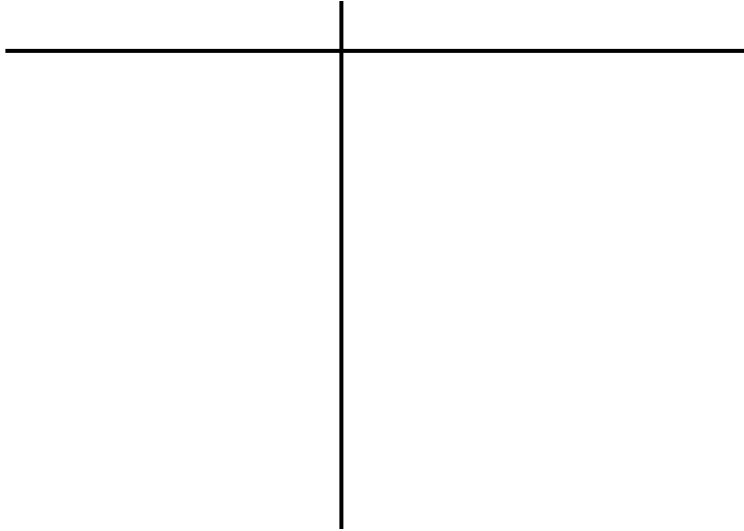
3. Given: $\overline{AB} \cong \overline{CD}$
B is the midpoint of \overline{AC}
Prove: $\overline{BC} \cong \overline{CD}$



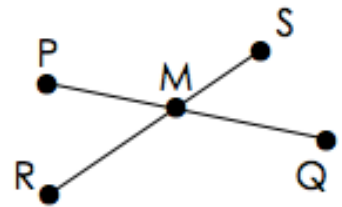
4. Given: $\overline{RT} \cong \overline{SU}$
Prove: $RS = TU$



5. Given: T is the midpoint of \overline{YS} , O is the midpoint of \overline{RM} , and $YT = RO$.
 Prove: $TS = OM$.



6. Given: $\overline{PM} \cong \overline{MS}$, \overline{RS} bisects \overline{PQ}
 Prove: $\overline{MS} \cong \overline{MQ}$



Statement	Reason
1. $\overline{PM} \cong \overline{MS}$	1.
2. \overline{RS} bisects \overline{PQ}	2.
3. $PM = MS$	3.
4. $PM = MQ$	4.
5. $MS = MQ$	5.
6. $\overline{MS} \cong \overline{MQ}$	6.