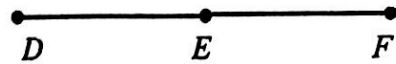


Directions: Complete the proofs below by giving the missing statements and reasons.

1

Given:  $E$  is the midpoint of  $\overline{DF}$

Prove:  $2DE = DF$

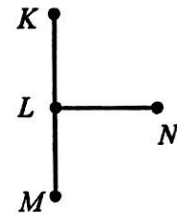


Statements	Reasons
1. $E$ is the midpoint of $\overline{DF}$	1. given
2. $DE = EF$	2. def MP
3. $DE + DE = DE + EF$	3. addition
4. $2DE = DE + EF$	4. CLT / Simplify
5. $DE + EF = DF$	5. segment addition
6. $2DE = DF$	6. transitive

2

Given:  $\overline{KL} \cong \overline{LN}$ ,  $\overline{LM} \cong \overline{LN}$

Prove:  $L$  is the midpoint of  $\overline{KM}$

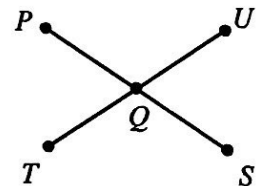


Statements	Reasons
1. $\overline{KL} \cong \overline{LN}$ , $\overline{LM} \cong \overline{LN}$	1. given
2. $KL = LN$ , $LM = LN$	2. def of $\cong$
3. $KL = LM$	3. substitution
4. $L$ is the midpoint of $\overline{KM}$	4. def of MP

3

Given:  $\overline{PQ} \cong \overline{TQ}$ ,  $\overline{UQ} \cong \overline{QS}$

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

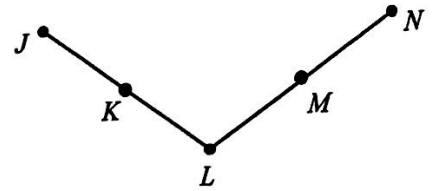


Statements	Reasons
1. $\overline{PQ} \cong \overline{TQ}$ , $\overline{UQ} \cong \overline{QS}$	1.
2. $PQ = TQ$ , $UQ = QS$	2.
3. $PQ + QS = PS$ ; $TQ + QU = TU$	3.
4. $TQ + QS = PS$	4.
5. $TQ + QS = TU$	5.
6. $PS = TU$	6.
7. $\overline{PS} \cong \overline{TU}$	7.

4

**Given:**  $K$  is the midpoint of  $\overline{JL}$ ,  $M$  is the midpoint of  $\overline{LN}$ ,  
 $JK = MN$

**Prove:**  $\overline{KL} \cong \overline{LM}$

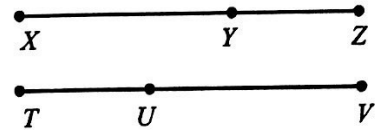


Statements	Reasons
1. $K$ is the midpoint of $\overline{JL}$ , $M$ is the midpoint of $\overline{LN}$	1.
2. $JK = KL, LM = MN$	2.
3. $JK = MN$	3.
4. $MN = KL, LM = MN$	4.
5. $LM = KL$	5.
6. $KL = LM$	6.
7. $\overline{KL} \cong \overline{LM}$	7.

5

**Given:**  $\overline{XY} \cong \overline{UV}, \overline{YZ} \cong \overline{TU}$

**Prove:**  $\overline{XZ} \cong \overline{TV}$

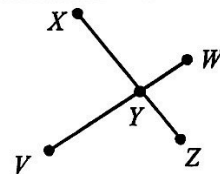


Statements	Reasons
1. $\overline{XY} \cong \overline{UV}, \overline{YZ} \cong \overline{TU}$	1.
2. $XY = UV, YZ = TU$	2.
3. $XY + YZ = XZ, TU + UV = TV$	3.
4. $UV + YZ = XZ, YZ + UV = TV$	4.
5. $XZ = TV$	5.
6. $\overline{XZ} \cong \overline{TV}$	6.

6

**Given:**  $\overline{YW} \cong \overline{YZ}, \overline{XY} \cong \overline{VY}$

**Prove:**  $\overline{XZ} \cong \overline{VW}$



Statements	Reasons
1. $\overline{YW} \cong \overline{YZ}, \overline{XY} \cong \overline{VY}$	1.
2. $YW = YZ, XY = VY$	2.
3. $XY + YZ = XZ$	3.
4. $VY + YW = XZ$	4.
5. $VY + YW = VW$	5.
6. $XZ = VW$	6.
7. $\overline{XZ} \cong \overline{VW}$	7.