

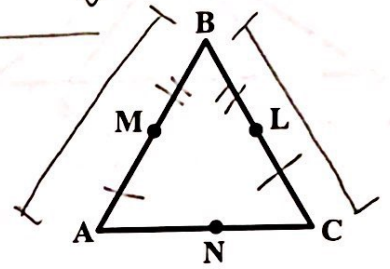
Geometry Honors

Proof Worksheet #3
2.7 More Practice

Name Answer Key Period H. Geo.

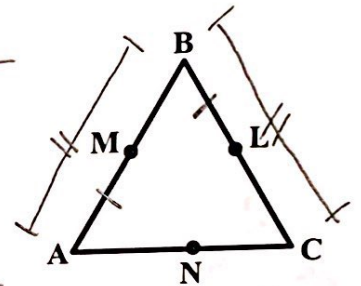
Given: $\overline{AM} \cong \overline{LC}$, $\overline{BM} \cong \overline{BL}$
Prove: $\overline{AB} \cong \overline{CB}$

Statements	Reasons
① $\overline{AM} \cong \overline{LC}$ $\overline{BM} \cong \overline{BL}$ Diagram	① Given
② $\overline{AB} \cong \overline{CB}$	② IF \cong segs are added to \cong segs, then their sums are \cong .



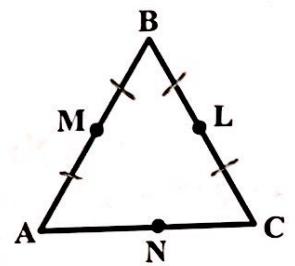
Given: $\overline{AM} \cong \overline{BL}$, $\overline{AB} \cong \overline{BC}$
Prove: $\overline{BM} \cong \overline{LC}$

Statements	Reasons
① $\overline{AM} \cong \overline{BL}$ $\overline{AB} \cong \overline{BC}$ Diagram	① Given
② $\overline{BM} \cong \overline{LC}$	② IF \cong segs are subtracted from \cong segs, then their differences are \cong .



Given: M and L are midpoints of \overline{AB} and \overline{BC} , resp., & $\overline{BM} \cong \overline{BL}$
Prove: $\overline{AB} \cong \overline{CB}$

Statements	Reasons
① M and L are midpoints of \overline{AB} and \overline{BC}	① Given
$\overline{BM} \cong \overline{BL}$ Diagram	
② $\overline{AM} \cong \overline{MB}$ $\overline{BL} \cong \overline{LC}$	② IF a point is the midpoint, then it divides the seg. into 2 \cong segs.
③ $\overline{AB} \cong \overline{CB}$	③ IF segs are \cong , then their like multiples are \cong .



2.7 Proving Segment Relationships

Given: $AE = DC$

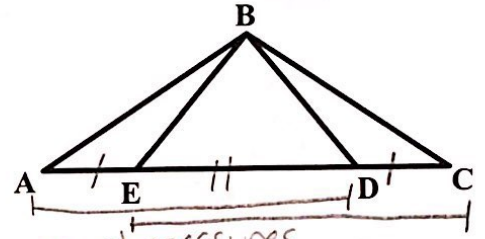
Prove: $\overline{AD} \cong \overline{EC}$

Statements

Reasons

- ① $AE = DC$
diagram
- ② $\overline{AE} \cong \overline{DC}$
- ③ $\overline{ED} \cong \overline{ED}$
- ④ $\overline{AD} \cong \overline{EC}$

- ① Given
- ② If 2 segs have equal measures, then the segs are \cong .
- ③ Reflexive Prop
- ④ If a seg is added to \cong segs, then their sums are \cong .



Given: $\overline{AQ} \cong \overline{QD}$, Q is the midpoint of \overline{BE}

Prove: $AB = ED$

Statements

Reasons

- ① $\overline{AQ} \cong \overline{QD}$
Q is the midpoint of \overline{BE}
diagram
- ② $\overline{BQ} \cong \overline{QE}$
- ③ $\overline{AB} \cong \overline{ED}$
- ④ $AB = ED$

- ① Given
- ② If a point is the midpoint, then it divides the seg into 2 \cong segs.
- ③ If congruent segs are subtracted from \cong segs, then their difference is \cong .
- ④ If segs are \cong , then their measures are equal.

