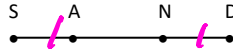


# Reasoning and Proof – Proving Segments

Application Section 2.3

Name \_\_\_\_\_

1. Given  $\overline{SA} \cong \overline{ND}$   
 Prove  $\overline{SN} \cong \overline{AD}$

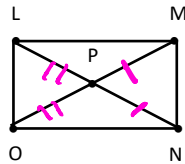


Statement

Reason

- |   |   |
|---|---|
| <p>a. <math>\overline{SA} \cong \overline{ND}</math></p> <p>b. <math>SA = ND</math></p> <p>c. <math>SN = SA + AN</math><br/><math>AD = AN + ND</math></p> <p>d. <math>SN = ND + AN</math></p> <p>e. <math>SN = AD</math></p> <p>f. <math>\overline{SN} \cong \overline{AD}</math></p> | <p>a. GIVEN</p> <p>b. Def'n of <math>\cong</math> segments</p> <p>c. Seg't Add'n Postulate</p> <p>d. Substitution PoE</p> <p>e. Substitution PoE</p> <p>f. Def'n of <math>\cong</math> segments</p> |
|---|---|

2. Given  $MP = NP$   
 $PO = PL$   
 Prove  $MO = NL$



Statement

Reason

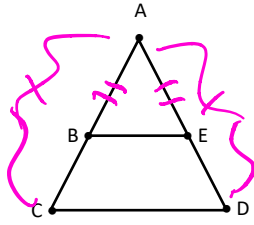
- |  |   |
|--|---|
| <p>a. <math>MP = NP</math><br/><math>PO = PL</math></p> <p>b. <math>MO = MP + PO</math><br/><math>NL = NP + PL</math></p> <p>c. <math>MO = NP + PL</math></p> <p>d. <math>MO = NL</math></p> <p>e.</p> <p>f.</p> | <p>a. GIVEN</p> <p>b. Segment Add'n Postulate</p> <p>c. Substitution PoE</p> <p>d. Substitution PoE</p> <p>e.</p> <p>f.</p> |
|--|---|

# Reasoning and Proof – Proving Segments

Application Section 2.3

Name \_\_\_\_\_

3. Given  $AC = AD$   
 $AB = AE$
- Prove  $BC = ED$



Statement

Reason

- a.  $AC = AD$   
 $AB = AE$
- b.  $AC = AB + BC$   
 $AD = AE + ED$
- c.  $AB + BC = AE + ED$
- d.  $AE + BC = AE + ED$
- e.  $BC = ED$
- f.

- a. GIVEN
- b. Seg't Add'n Postulate
- c. Substitut'n PoE
- d. Substitut'n PoE
- e. Subtraction PoE
- f.