Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Day 8 – More Proofs**

Use the information given in the diagram and the Reasons Bank to give a reason why

each statement is true. Some reasons may be used more than once.

 **Given:** *****L* **** *****Q, N is the midpoint of LQ*

**Prove: ***LNM* **** *****QNP*



 **Statements Reasons**

**1) ***L* **** *****Q*  **1)**

**2)** N is the midpoint of LQ  **2)**

 **3) ****3)**

**4) ***LNM******QNP* **4)**

 **5) ***LNM* **** *****QNP* **5)**

**Reasons Bank:**

* Definition of a midpoint
* Vertical angles are congruent
* Reflexive Property
* All right angles are congruent
* Given
* ASA SAS SSS AAS



**2. Given:** and ** bisect each other.

|  |  |
| --- | --- |
|  **Statements** |  **Reasons** |
| 1) and bisect each other. | 1) |
| 2) ≅ *,* ≅  | 2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_q |
| 3) ∠*ACB* ≅ ∠*DCE* | 3)  |
| 4) Δ*ACB* ≅ Δ*DCE* | 4)  |

 **Prove**: ∆ACB ≅ ∆DCE

**Reasons Bank:**

* Definition of a midpoint
* Vertical angles are congruent
* Reflexive Property
* All right angles are congruent
* Definition of a bisector
* Given
* ASA SAS SSS AAS





**3.** Given: 

 Prove: Δ*WXZ* ≅ Δ*YZX*

1. $\overbar{WX} || \overbar{YZ}, \overbar{WX}≅\overbar{YZ}$
2. $∠WXZ≅∠YZX$
3. $\overbar{XZ}≅\overbar{XZ}$
4. $∆WXZ≅∆YZX$

**Reasons Bank:**

* Definition of a midpoint
* Vertical angles are congruent
* Reflexive Property
* All right angles are congruent
* Definition of a bisector
* If two parallel lines are cut by a transversal, then the corresponding angles are congruent
* If two parallel lines are cut by a transversal, then the alternate interior angles are congruent
* ASA SAS SSS AAS

**Write a two-column proof.**

**4.** Given:**

Prove:Δ*ABC* ≅ Δ*EDC*

 

Statements Reasons

**5.** Given: ∠K ≅ ∠L, KL ≅ LM

Prove: ∆JKL ≅ ∆PML

Statements Reasons