Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_\_\_\_

**Geometry – Proof Practice**

1. Given: $∢ CAB ≅ ∢ EDB,$

$$ \overbar{AB}≅\overbar{DB} $$

 Prove: $∆ ABC ≅ ∆ DBE$

|  |  |
| --- | --- |
| **Statement** | **Reason** |
| $$∢ CAB ≅ ∢ EDB$$ | Given |
| $$\overbar{AB}≅\overbar{DB}$$ | Given |
| $$∢ CBA ≅ ∢ EBD$$ | Vertical angles are congruent |
| $$∆ ABC ≅ ∆ DBE$$ | ASA Postulate |



2. Given: D is the midpoint of$ \overbar{AC}$, $∢ ADB ≅ ∢ CDB$

 Prove: $∆ ABD ≅ ∆ CBD$

|  |  |
| --- | --- |
| **Statement** | **Reason** |
| D is the midpoint of $\overbar{AC}$ | Given |
| $$∢ ADB ≅ ∢ CDB$$ | Given |
| $$\overbar{AD}≅ \overbar{CD}$$ | Definition of midpoint |
| $$\overbar{BD}≅ \overbar{BD}$$ | Reflexive Property |
| $$∆ ABD ≅ ∆ CBD$$ | SAS Postulate |

3. Given: C is the midpoint of$ \overbar{AD}$, C is the midpoint of $\overbar{BE}$

 Prove: $∆ ABC ≅ ∆ DEC$

|  |  |
| --- | --- |
| **Statement** | **Reason** |
| C is the midpoint of $\overbar{AD}$ | Given |
| C is the midpoint of $\overbar{BE}$ | Given |
| $$\overbar{BC}≅ \overbar{EC}$$ | Definition of midpoint |
| $$\overbar{AC}≅ \overbar{DC}$$ | Definition of midpoint |
| $$∢ ACB ≅ ∢ DCE$$ | Vertical angles are congruent |
| $$∆ ABC ≅ ∆ DEC$$ | SAS Postulate |

4. Given:$ \overbar{BC} || \overbar{AD}$, $∢ B ≅ ∢ D$

 Prove: $∆ ABC ≅ ∆ CDA$

|  |  |
| --- | --- |
| **Statement** | **Reason** |
| $$ \overbar{AC} || \overbar{DC}$$ | Given |
| $$∢ ABC ≅ ∢ CDA$$ | Given |
| $$∢ DAC ≅ ∢ BCA$$ | Parallel lines make Alternate Interior Angles congruent. |
| $$\overbar{AC} ≅ \overbar{AC}$$ | Reflexive Property |
| $$∆ ABC ≅ ∆ CDA$$ | AAS Postulate |