$\qquad$
$\qquad$ Period: $\qquad$
Fill in the Blanks... and an extra CHALLENGE!
Directions: Fill in the blanks for all of the missing statements/reasons in each proof.

1. Given: C is the midpoint of $\overline{\mathrm{BE}}, \angle \mathrm{B} \cong \angle \mathrm{E}$, and
$\overline{\mathrm{AB}} \cong \overline{\mathrm{DE}}$


Prove: $\triangle \mathrm{ABC} \cong \triangle \mathrm{DEC}$

| Statements | Reasons |
| :--- | :--- |
| $1 . \angle \mathrm{B} \cong \angle \mathrm{E}$ | 1. |
| 2. $\overline{\mathrm{AB}} \cong \overline{\mathrm{DE}}$ | 2. |
| 3. | 3. Given |
| 4. | 4. A midpoint divides a segment into $2 \cong$ segments |
| 5. $\triangle \mathrm{ABC} \cong \triangle \mathrm{DEC}$ | 5. SAS $\cong$ SAS |

2. Given: $\overline{\mathrm{QT}}$ bisects $\overline{\mathrm{SP}}, \overline{\mathrm{SP}}$ bisects $\overline{\mathrm{QT}}$


Prove: $\triangle Q R P \cong \triangle S R T$

| Statements | Reasons |
| :--- | :--- |
| 1. $\overline{\mathrm{QT}}$ bisects $\overline{\mathrm{SP}}$ | 1. Given |
| 2. | 2. Given |
| 3. $\overline{\mathrm{QR}} \cong \overline{\mathrm{TR}}$ | 3. |
| 4. $\mathrm{PR} \cong \overline{\mathrm{SR}}$ | 4. |
| 5. | 5. Vertical Angles are $\cong$ |
| 6. $\triangle \mathrm{QRP} \cong \triangle \mathrm{SRT}$ | 6. |

3. Given: Q is the midpoint of $\overline{\mathrm{PR}} . \overline{\mathrm{PS}} \cong \overline{\mathrm{QT}}$ and


Prove: $\triangle \mathrm{PQS} \cong \triangle \mathrm{RQT}$

| Statements | Reasons |
| :--- | :--- |
| 1. | 1. Given |
| 2. $\overline{\mathrm{QS}} \cong \overline{\mathrm{RT}}$ | 2. Given |
| 4. | 3. |
| 5. $\triangle \mathrm{ABC} \cong \triangle \mathrm{DBC}$ | 4. A.midpoint divides a segment into $2 \cong$ segments |
|  | 5. |

Now try filling in a proof completely on your own!
4. Given: $\angle \mathrm{P} \cong \angle \mathrm{S}, \angle \mathrm{Q} \cong \angle \mathrm{T}$, and $\overline{\mathrm{QR}} \cong \overline{\mathrm{TU}}$


Prove: $\triangle \mathrm{PQR} \cong \triangle S T U$

| Statement | Reason |
| :--- | :--- |
| 1. | 1. |
| 2. | 2. |
| 3. | 3. |
| 4. | 4. |

5. Given: $\overline{\mathrm{PR}} \cong \overline{\mathrm{TR}}, \angle \mathrm{P} \cong \angle \mathrm{T}$


Prove: $\triangle \mathrm{ABC} \cong \triangle \mathrm{DBC}$

| Statement | Reason |
| :--- | :--- |
| 1. | 1. |
| 2. | 2. |
| 3. | 3. |
| 4. | 4. |

