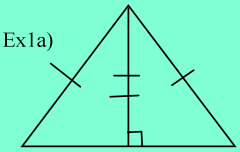
Ch 5.4 Hypotenuse - Leg Theorem

There are 5 ways to prove triangles congruent:

- SSS
- SAS
- AAS
- ASA
- H-L

Ex1a)



***H-L*** - if you have a *right triangle* with the *hypotenuse* and a *leg* are ≅ to corresponding parts of another triangle then they are ≅ triangles.

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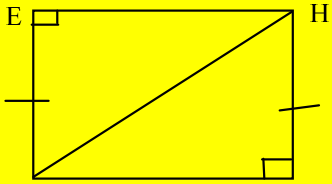
Ex1b)




triangle congruency statement:

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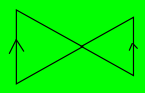
Determine if the following triangles are ≅.

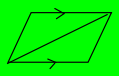
1.

2.

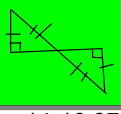
3.



4.



5.



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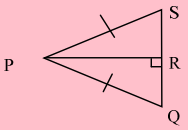
Ex2a) Prove $\Delta PRQ \cong \Delta PRS$




| | |
|---|---|
| 1. $\overline{PR} \perp \overline{SQ}$ | 1. Given |
| 2. $\overline{PQ} \cong \overline{PS}$ | 2. Given |
| 3. $\angle PRQ$ and $\angle PRS$ are right $\angle$'s | 3. _____ |
| 4. $\Delta PRQ \cong \Delta PRS$ are triangles | 4. _____ |
| 5. $\overline{PQ} \cong \overline{PS}$ | 5. _____ |
| 6. $\overline{PR} \cong \overline{PR}$ | 6. _____ |
| 7. $\Delta PQR \cong \Delta PRS$ | 7. _____ |

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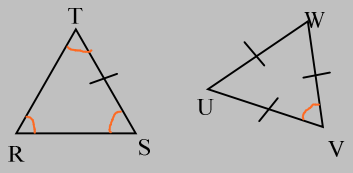
Ex2b) Use the info in the diagram to prove the 2 triangles are ≅.




| | |
|---|---|
| 1. $\angle S \cong \angle V$ | 1. |
| 2. $\overline{ST} \cong \overline{VW}$ | 2. |
| 3. $\Delta UVW$ is equilateral | 3. |
| 4. $\angle V \cong \angle W$ | 4. |
| 5. $\angle T \cong \angle V$ | 5. |
| 6. | 6. Transitive prop. |
| 7. | 7. ASA |

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