1.4. Honors Geometry

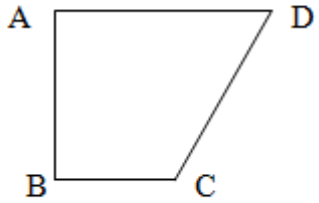
DATE: 9/11

Target 1C. Prove theorems about lines and angles with statements based on the Law of Syllogism

Examples { Like Theorem 1 in section 1.4 (very important) } If two ∠s are rt. ∠s, then they are congruent

Given: ∠A is a rt. angle
∠B is a rt. angle

Prove: ∠A ≅ ∠B

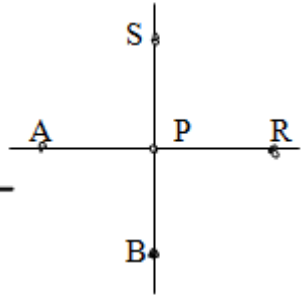


Statement	Reason
(1) ∠A is rt. ∠	(1) Given
(2) ∠B is rt. ∠	(2) Given
(3) ∠A = 90°	(3) If an ∠ is a rt. ∠, then its measure is 90°
(4) ∠B = 90°	(4) Same as step 3.
(5) ∠A ≅ ∠B	(5) If two ∠s have the same measure, then they are ≅ (congruent). [steps 3 & 4]

{Like Theorem 2 in section 1.4} (very important) * If two ∠s are st. ∠s, then they are $\cong$.

Given: Diagram as shown

Conclusion: $\angle APR \cong \angle SPB$



Statement	Reason
(1) Diagram as shown	(1) Given
(2) ∠APR st. ∠	(2) Assume from diagram
(3) ∠APR = 180°	(3) If an ∠ is a st. ∠, then its measure is 180°.
(4) ∠SPB st. ∠	(4) Same as step 2
(5) ∠SPB = 180°	(5) Same as step 3
(6) ∠APR $\cong$ ∠SPB	(6) If two ∠s have the same measure, then they are $\cong$. [step 3 & 5]