

Name: _____

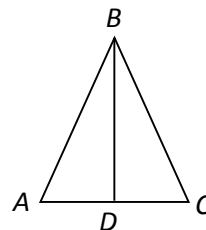
Date: _____

Geometry HW: Intro Geo Proofs – 9 Proof Practice

Determine if each conclusion and reason is True or False. If false, change the conclusion and/or the reason (not the given).

1. Given: \overline{BD} bisects $\angle ABC$

Conclusion: $\angle BAD \cong \angle BCD$ because a bisector divides an angle into two congruent parts



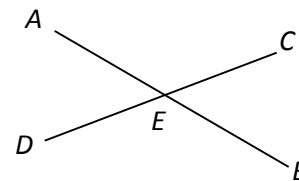
2. Given: $m\angle 1 + m\angle 2 = 90$ (No diagram for this problem.)

$$m\angle 3 + m\angle 4 = 90$$

Conclusion: $m\angle 1 + m\angle 2 = m\angle 3 + m\angle 4$ by the Addition Post.

3. Given: \overline{AB} intersects \overline{CD} at E

Conclusion: $\overline{CE} \cong \overline{ED}$ because a bisector divides a segment into 2 \cong parts



Write a complete geometry proof for each of #4 - 6:

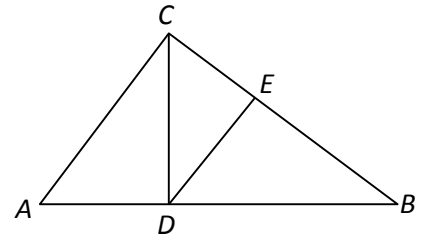
4. Given: \overline{ABCDE} , B is the midpoint of \overline{AC} , $\overline{AB} \cong \overline{DE}$

(Draw your own diagram.)

Prove: $\overline{BD} \cong \overline{CE}$

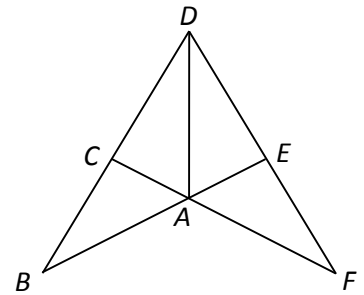
5. Given: $\triangle ABC$ with right $\angle ACB$, $\overline{CD} \perp \overline{AB}$, $\angle ACD \cong \angle EDC$.

Prove: $\angle ECD \cong \angle EDB$



6. Given: $\angle BAD \cong \angle FAD$, \overline{BAE} , \overline{FAC}

Prove: \overline{DA} bisects $\angle CAE$

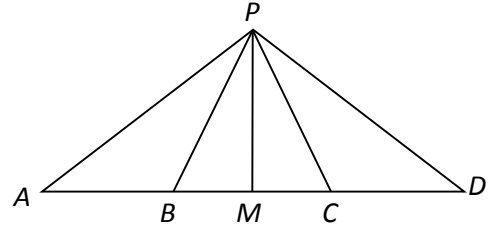


Geometry HW: Intro Geo Proofs - 10

Write complete geometry proofs for each of the following.

1. Given: \overline{ABMCD} , M is the midpoint of \overline{BC} , \overline{PM} bisects \overline{AD}

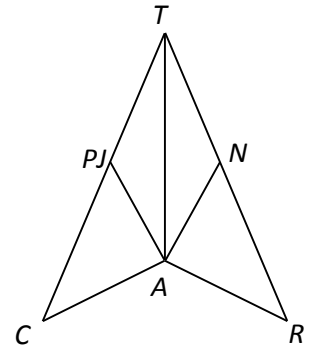
Prove: $\overline{AB} \cong \overline{CD}$



2. Given: $\overline{AP} \perp \overline{CA}$, $\overline{AN} \perp \overline{RA}$

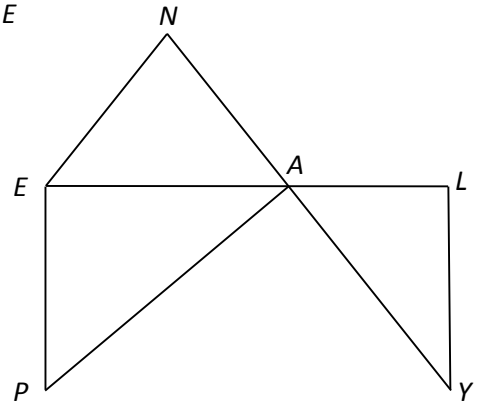
\overline{AT} bisects $\angle PAN$.

Prove: $\angle CAT \cong \angle RAT$



3. Given: \overline{EAL} , \overline{NAY} , $\angle PEA$ is a right angle, $\overline{PA} \perp \overline{NY}$, $\angle NEA \cong \angle NAE$

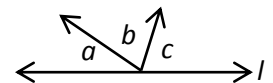
Prove: $\angle PEN \cong \angle PAL$



4. Two vertical angles are complementary. What is the measure of each?

5. Given: \overline{MATH} , A is the midpoint of \overline{MT} , $MH = 21$ and $AH = 15$. Find the value of TH .

6. Given line l and $m\angle a : m\angle b : m\angle c = 2:3:4$, find the numerical value of $m\angle a$.



7. The measure of an angle is 24 degrees less than twice the measure of its supplement. Find the measure of the angle.