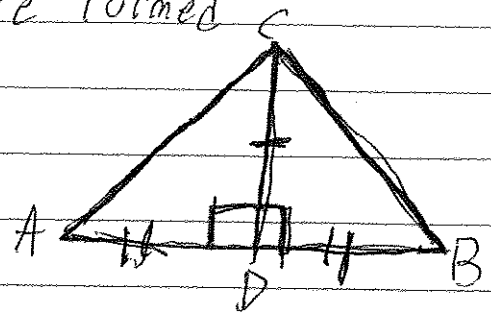


11

Sam Gunning

#8

Given: If a line perpendicular to \overline{AB} passes through ~~the~~ the midpoint of \overline{AB} , and segments are drawn from any other point on the line to A and B, then 2 \cong Δ 's are formed
 Prove: $\Delta ACD \cong \Delta BCD$



\overline{CD} passes through the midpoint of \overline{AB}

\overline{CD} is \perp to \overline{AB}

Given

$\overline{CD} \cong \overline{CD}$

reflexive

$m\angle ADC = 90^\circ$
 $m\angle BDC = 90^\circ$

def of a perp

$m\angle ADC = m\angle BDC$

substitution

$\angle ADC \cong \angle BDC$

def of \cong

$\overline{AD} \cong \overline{DB}$

def of a midpoint

$\Delta ACD \cong \Delta BCD$

SAS \cong Post