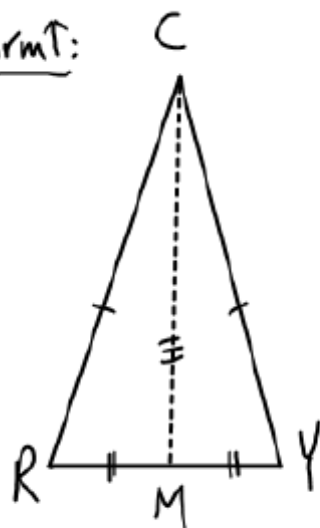


Warmt:

Different problem
than in class →

Given: $\overline{CR} \cong \overline{CY}$
 \overline{CM} median of $\triangle CRY$

Prove: $\angle R \cong \angle Y$

11/18

what does
this proof tell
us? What type of
 Δ is $\triangle CRY$?

statements	Reasons
① $\overline{CR} \cong \overline{CY}$ * \overline{CM} median of $\triangle CRY$	① Given
② $\overline{RM} \cong \overline{YM}$	② Definition of median
③ $\overline{CM} \cong \overline{CM}$	③ Reflexive property of segments
④ $\triangle CRM \cong \triangle CYM$	④ SSS (step 1*, 2, 3)
⑤ $\angle R \cong \angle Y$	⑤ CPCTC

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3.7. Honors Geometry

DATE: 11/18

Target 3D. Understand and apply the properties of isosceles and equilateral triangles


***Base-Angles Theorem**
 If 2 sides of a $\triangle \cong$, then base $\angle s \cong$.
 If $\triangle \cong$, then $\triangle \cong$ -OR- $\triangle \Rightarrow \triangle$

****Converse of the Base-Angles Theorem**
 If 2 base $\angle s \cong$ in a \triangle , then sides opposite base $\angle s \cong$.
 If $\triangle \cong$, then $\triangle \cong$ -OR- $\triangle \Rightarrow \triangle$

Ways to Prove That a Triangle is Isosceles

- 1) If at least 2 sides \cong in \triangle , then it's isosceles.
- 2) If at least 2 base $\angle s \cong$ in \triangle , then it's isosceles.

Inverses of * and **



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Ways to Prove That a Triangle is Isosceles

1)

2)

Inverses of * and **

* $p \rightarrow q$: inverse $\sim p \rightarrow \sim q$

** $p \leftrightarrow q$: inverse $\sim p \leftrightarrow \sim q$

Taking the inverses leads to ...

Write a two column proof.

Given: $\angle 1 \cong \angle 2$
 $\angle B \cong \angle E$

Prove: $\angle ACB \cong \angle ADE$

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3.7 Angle Side Theorems - Microsoft Word

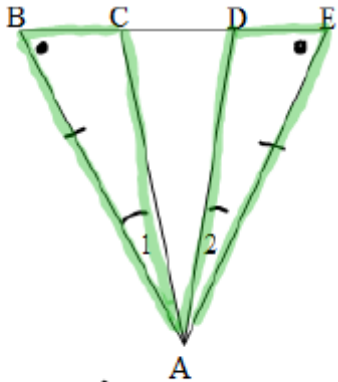
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Write a two column proof.

Given: $\angle 1 \cong \angle 2$
 $\angle B \cong \angle E$

Prove: $\angle ACB \cong \angle ADE$



Statement	Reason
① $\angle 1 \cong \angle 2$ $\angle B \cong \angle E$	① Given
② $\overline{BA} \cong \overline{EA}$	② If \triangle , then \triangle
③ $\triangle CAB \cong \triangle DAE$	③ ASA
④ $\angle ACB \cong \angle ADE$	④ CPCTC

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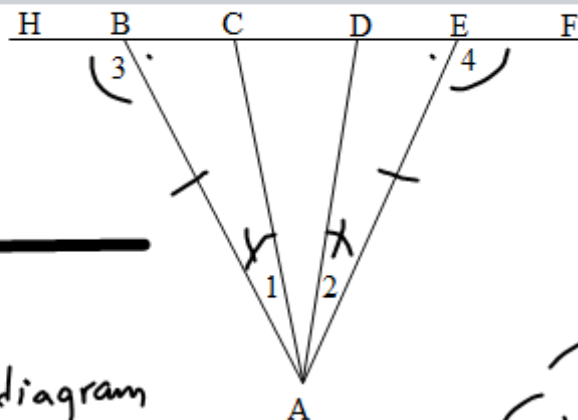
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Given: $\angle 1 \cong \angle 2$
 $\angle 3 \cong \angle 4$

Prove: $\triangle ACD$ is isosceles



Statement	Reason
① $\angle 1 \cong \angle 2$	① Given
② $\angle 3 \cong \angle 4$	② Assume from diagram
③ $\angle HBC, \angle FED$ st. \angle	③ If two \angle s are st. \angle s, then \cong .
④ $\angle HBC \cong \angle FED$	④ Subtraction property of \angle s
⑤ $\angle ABC \cong \angle AED$	⑤ $\triangle \Rightarrow \triangle$
⑥ $\overline{BA} \cong \overline{EA}$	⑥ ASA (1, 6, 5)
⑦ $\triangle ABL \cong \triangle AED$	⑦ CPCTC
⑧ $\overline{AC} \cong \overline{AD}$	⑧ Definition of isosceles (If at least 2 \cong sides, then \triangle isosceles)
⑨ $\triangle ACD$ isosceles	

We subtracted
 $\angle HBC \cong \angle FED$
 $-\angle 3 \cong \angle 4$

 $\angle ABC \cong \angle AED$

Given: $\triangle FDE$ is isosceles
 $m\angle F = x^2 + 2x$

D