

STRATEGIES FOR WRITING PROOFS

What are two strategies for writing proofs?

a. _____

b. _____

Triangle Proof with midpoint

Given: X is the midpoint of \overline{NR}
 $\angle A \cong \angle G$
Prove: $\triangle ANX \cong \triangle GRX$



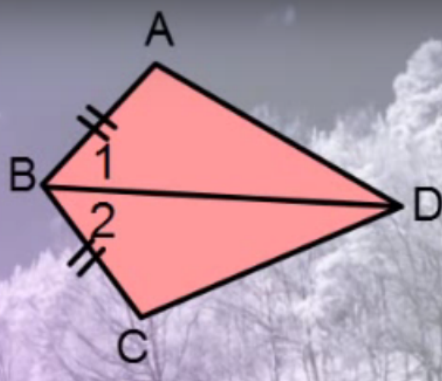
- What parts of the triangles do you know are congruent? Mark the picture and/or write the mathematical statement.
- What parts of the triangles are congruent because of the GIVEN: X is the midpoint of \overline{NR} ?
- Do you have enough information to say the two triangles are congruent?
- Looking at the picture do you have SAS, SSS, ASA, AAS, or HL?
- Write the proof.

STATEMENTS	REASONS

Proof with reflexive side starts at 3:38.

Given: $\overline{AB} \cong \overline{BC}$
 \overline{BD} bisects $\angle ABC$

Prove: $\triangle ABD \cong \triangle CBD$



- What parts of the triangles do you know are congruent (GIVEN)? Mark the picture and/or write the mathematical statement.
- What parts of the triangles are congruent because of the
 $\text{GIVEN: } \overline{BD} \text{ bisects } \angle CBD.$
- Do you have enough information to say the two triangles are congruent?
 - Is there a shared side (reflexive property)?
 - Are there vertical angles?
- Looking at the picture do you have SAS, SSS, ASA, AAS, or HL?
- Write the proof.

STATEMENTS	REASONS