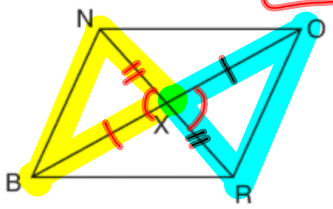
Question 10

The accompanying diagram shows quadrilateral *BRON*, with diagonals $\overline{NR}$ and $\overline{BO}$, which bisect each other at *X*.



Prove: $\Delta BNX \cong \Delta ORX$

The following is a list of possible statements and reasons that could be used in the proof.

In the proof below, fill in the letter of the appropriate statement or reason from the list above.

Statements	Reasons
1. *BRON* is a quadrilateral	1. Given
2. D NR & BO are diag.	2. Given
3. $\overline{NR}$ and $\overline{BO}$ bisect each other	3. Given
4. $\overline{NX} \cong \overline{XR}$	4. G A bisector divides a line seg. into 2 ≅ parts
5. $\overline{OX} \cong \overline{BX}$	5. G
6. E ∠NXB ≅ ∠RXO	6. Two intersecting lines form congruent vertical angles.
7. $\Delta BNX \cong \Delta ORX$	7. A SAS

Subtraction post.

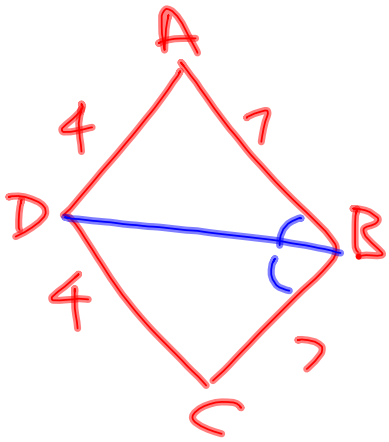
(OK)

Given: AB = CD

AM = CN

? MB vs. ND → MB = ND subtraction part.

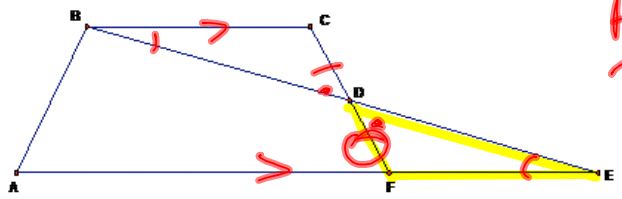
S	R
① AB=7, AD=4	Given.
CD=4, BC=7	
② AB=BC, AD=DC	since they have the same length, they must be = to each other. (substitution)



Question 19

Fill in the missing reasons for the proof using the *List of Reasons for Geometric Proofs* in the *Reference Tables*.

Given:
Quadrilateral $ABCF$,
$\overline{BDE}, \overline{CDF}, \overline{AFE}, \overline{BE}$ bisects $\overline{CF}$,
and $\overline{AE} \parallel \overline{BC}$.



AAS ASA

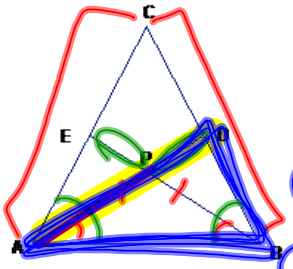
Prove: $\overline{BC} \cong \overline{FE}$

Statements	Reasons
1. Quadrilateral $ABCF$, $\overline{BDE}, \overline{CDF}, \overline{AFE}, \overline{BE}$ bisects $\overline{CF}$	1. Given
2. $\overline{CD} \cong \overline{DF}$	2. 3 a bisector cuts a line segment into 2 ≅ parts.
3. $\overline{AE} \parallel \overline{BC}$	3. Given
4. $\angle CBD \cong \angle DEF$	4. 9 alt. int. ∠'s are ≅ in parallel lines.
5. $\angle BDC \cong \angle EDF$	5. 8 vertical ∠s are ≅ when 2 lines int.
6. $\triangle BDC \cong \triangle EDF$	6. 18 AAS
7. $\overline{BC} \cong \overline{FE}$	7. 25 CPCTC

Question 15

Fill in the missing statements and reasons for the proof using the list of possibl

Given: $\triangle ABC$, $\overline{CA} \cong \overline{CB}$, $\overline{AD}$ and $\overline{BE}$ intersect at P, $\measuredangle PAB \cong \measuredangle PBA$



Prove: $\overline{PE} \cong \overline{PD}$

* ∠CAB ≅ ∠CBA

	S	R
1		Given
2	$\overline{AB} \cong \overline{AB}$	Reflexive
3	$\triangle ABD \cong \triangle BAE$	ASA
4	$AD = BE$	CPCTC
5	$\triangle ABP$ is isos	