

Decode this **DO NOW**...



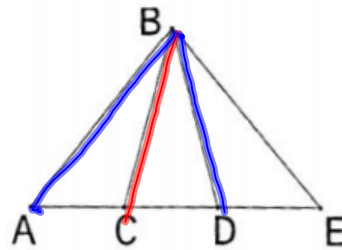
Oct 2-9:35 AM

1. Given:  $\overline{BC}$  bisects  $\angle ABD$   
 $\angle ABC \cong \angle DBE$

Prove:  $\overline{BD}$  bisects  $\angle CBE$

Statements

1.  $\overline{BC}$  bisects  $\angle ABD$
2.  $\angle CBD \cong \angle ABC$
3.  $\angle ABC \cong \angle DBE$
4.  $\angle CBD \cong \angle DBE$
5.  $\overline{BD}$  bisects  $\angle CBE$



Reasons

1. Given
2. Def of a bisector.
3. Given
4. Transitive
5. Def of bisector.

Oct 2-9:21 AM

2. Given:  $\overline{DE} \perp \overline{BE}$   
 $m\angle ABE = m\angle DEB$

Prove:  $\angle ABC$  is a right angle

L - perpendicular  
 $= 90^\circ \angle$   
 $= rt \angle$

Statements

- $\overline{DE} \perp \overline{BE}$
- $\angle DEB = 90^\circ$
- $m\angle ABE = m\angle DEB$
- $\angle ABC$  and  $\angle ABE$  are supplementary.
- $\angle ABC + \angle ABE = 180^\circ$
- $\angle ABC + 90^\circ = 180^\circ$
- $\angle ABC = 90^\circ$
- $\angle ABC$  is right angle

Reasons

- Given
- Def of perpendicular.
- Given
- Def of a straight  $\angle$ .
- Def. of supplementary
- Substitution
- Subtraction POE
- Def of a right  $\angle$ .

Oct 2-9:30 AM

3. CHALLENGE PROOF: Given:  $\overline{BE} \perp \overline{DC}$   
 $m\angle BDC = m\angle ACB$

Prove:  $\angle BCD$  and  $\angle DCE$  are complementary angles

Statements

- $\overline{BE} \perp \overline{DC}$
- $\angle \underline{\hspace{1cm}} \cong \angle \underline{\hspace{1cm}}$  are  $rt \angle$ 's
- $\underline{\hspace{1cm}}$
- $\angle ACB = \underline{\hspace{1cm}}$
- $\angle ACB \cong \angle \underline{\hspace{1cm}}$  form a straight  $\angle$ .
- $\angle \underline{\hspace{1cm}} + \angle \underline{\hspace{1cm}} = 180^\circ$
- $\angle BCE = 90^\circ$
- $\angle \underline{\hspace{1cm}} + \angle \underline{\hspace{1cm}} = \angle BCE$
- $\angle \underline{\hspace{1cm}} + \angle \underline{\hspace{1cm}} = 90^\circ$
- $\underline{\hspace{1cm}}$

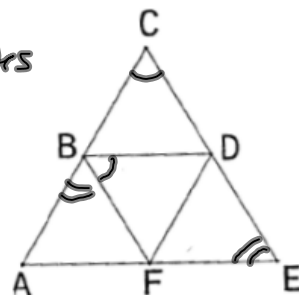
Reasons

- $\underline{\hspace{1cm}}$
- Def of  $\underline{\hspace{1cm}}$
- Given
- Def of  $\underline{\hspace{1cm}}$
- Def of  $\underline{\hspace{1cm}}$
- Def of  $\underline{\hspace{1cm}}$
- $\underline{\hspace{1cm}}$
- Angle Addition
- $\underline{\hspace{1cm}}$
- Def. of Complimentary

Oct 2-10:34 AM

4. Given:  $\angle ACE \cong \angle DBF$   
 $\triangle ACE$  is equiangular  
 $\angle CEA \cong \angle ABF$

\*\*equiangular means all three sides equal!!\*\*  
 and all 3 angles equal



Prove:  $\overline{BF}$  bisects  $\angle DBA$

Statements

1.  $\angle ACE \cong \angle DBF$
2.  $\triangle ACE$  is equiangular
3.  $\angle A \cong \angle \underline{\hspace{1cm}} \cong \angle \underline{\hspace{1cm}}$
4.  $\underline{\hspace{2cm}}$
5.  $\angle DBF \cong \angle FBA$
6.  $\underline{\hspace{2cm}}$

Reasons

- 1.
- 2.
3. Def of Equiangular
4. Given
5.  $\underline{\hspace{2cm}}$
6. Def of bisector.

Oct 2-10:40 AM

Oct 2-11:02 AM