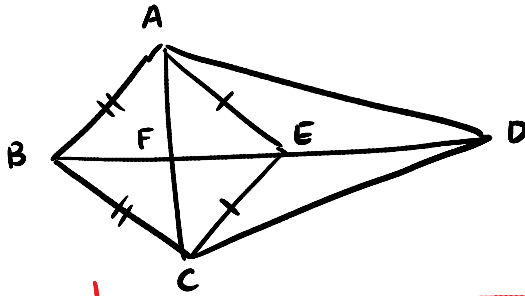


Section 4.4

pg 189: 12, 15, 16, 19, 21

#12  $\overline{AB} \cong \overline{BC}$   
 $\overline{AE} \cong \overline{EC}$

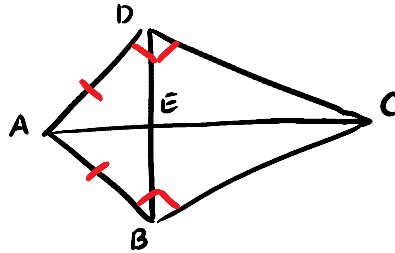
Prove:  $\overline{AD} \cong \overline{DC}$



1.  $\overline{AB} \cong \overline{BC}$
2.  $\overline{AE} \cong \overline{EC}$
3.  $\overline{BD}$  is the  $\perp$  bis.  $\overline{AC}$
4.  $\overline{AD} \cong \overline{DC}$

1. Given
2. Given
3. If 2 pts are equidistant from the endpts. of a seg  $\rightarrow$  determine  $\perp$  bis. of the seg.
4. If a point is on the  $\perp$  bis. of a seg  $\rightarrow$  it is equidistant from the endpts of the seg.

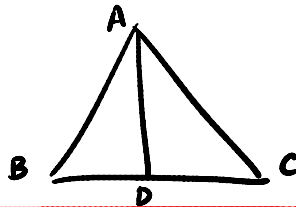
#15 Given:  $\sphericalangle ADC$  and  $\sphericalangle ABC$  are  $\perp$ 's  
 $\overline{AB} \cong \overline{AD}$   
 Conc:  $\overline{AC} \perp$  bis.  $\overline{BD}$



1.  $\sphericalangle ADC$  and  $\sphericalangle ABC$  are  $\perp$ 's
2.  $\overline{AB} \cong \overline{AD}$  (L)
3.  $\overline{AC} \cong \overline{AC}$  (H)
4.  $\triangle ADC \cong \triangle ABC$
5.  $\overline{DC} \cong \overline{BC}$
6.  $\overline{AC} \perp$  bis.  $\overline{BD}$

1. Given
2. Given
3. Reflexive prop
4. HL
5. CPCTC
6. If 2 pts are equidistant from the endpts of a seg  $\rightarrow$  determine  $\perp$  bis of the seg

#16  $\triangle ABC$  is isos w/ base  $\overline{BC}$   
 $\overline{AD}$  median to  $\overline{BC}$   
 Prove:  $\overline{AD} \perp$  bis. to  $\overline{BC}$



1.  $\triangle ABC$  is isos w/ base  $\overline{BC}$
2.  $\overline{AB} \cong \overline{AC}$
3.  $\overline{AD}$  median to  $\overline{BC}$
4.  $\overline{BD} \cong \overline{DC}$
5.  $\overline{AD} \perp$  bisector to  $\overline{BC}$
6.  $\overline{AD} \perp$  bis. to  $\overline{BC}$

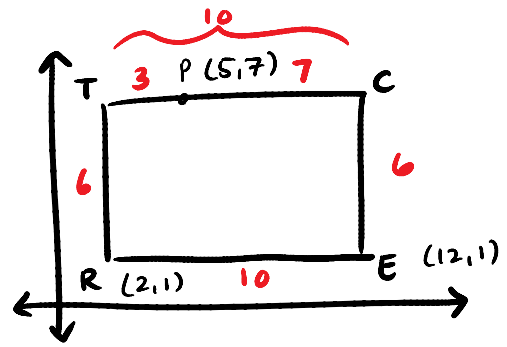
1. Given
2. If a  $\triangle$  is isos  $\rightarrow$  Legs  $\cong$
3. Given
4. If a seg is a med  $\rightarrow$  divides opp side into 2  $\cong$  segs
5. If 2 pts are equidistant from the endpts of a seg  $\rightarrow$  determine the  $\perp$  bisector of the seg
6. If a seg. from a vertex of a  $\triangle$  to the opp. side is  $\perp \rightarrow$  altitude

#19 On the rectangle shown, how much farther is the trip from P to T to R to E than the trip from P to C to E

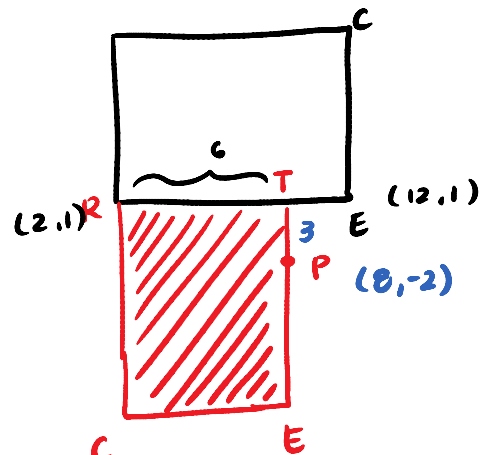
$$3 + 6 + 10 = 19$$

$$7 + 6 = 13$$

**6 units**



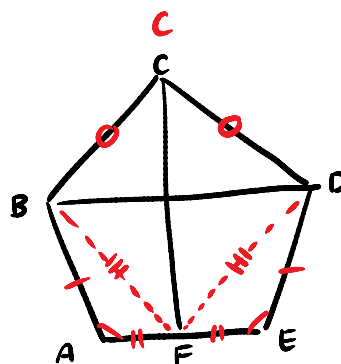
b. If rectangle RECT is rotated 90° clockwise about point R, what will the coordinates of the new location of P be?



21. Given: ABCDE is equilateral and equiangular.

F is the midpt. of  $\overline{AE}$

Prove:  $\overleftrightarrow{FC}$  is the  $\perp$  bisector of  $\overline{BD}$



1. ABCDE is equilateral and equiangular
2.  $\overline{AB} \cong \overline{BC} \cong \overline{CD} \cong \overline{DE}$
3.  $\angle A \cong \angle E$
4. Draw  $\overline{BF}$  and  $\overline{DF}$
5. F is the midpt. of  $\overline{AE}$
6.  $\overline{AF} \cong \overline{FE}$
7.  $\triangle BAF \cong \triangle DEF$
8.  $\overline{BF} \cong \overline{DF}$
9.  $\overleftrightarrow{FC} \perp$  bis.  $\overline{BD}$

1. Given
2. If a polygon is equilateral  $\rightarrow$  all sides  $\cong$
3. If a polygon is equiangular  $\rightarrow$  all  $\angle$ 's  $\cong$
4. 2 pts determine a line
5. Given
6. If a pt is a midpt  $\rightarrow$  divides the seg into 2  $\cong$  segs
7. SAS
8. CPCTC
9. If 2 pts are equidistant from the endpts of a seg  $\rightarrow$  determine the  $\perp$  bisector of the seg