

The Equidistance Theorems (4.4- Day 2)

Honors Geometry, Glawe

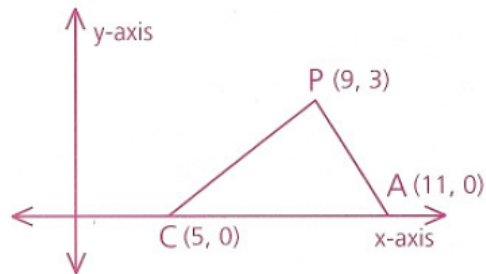
Name: _____ Period: _____

Recall:

Perpendicular Bisector Theorem (Theorem 24): If two points are each equidistant from the endpoints of a segment, then the two points determine the perpendicular bisector of that segment.

Equidistant Theorem (Theorem 25): If a point is on the perpendicular bisector of a segment, then it is equidistant from the endpoints of that segment.

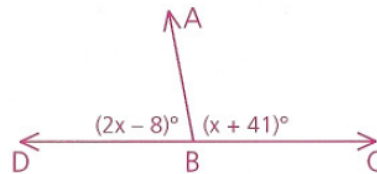
- 1) If $\triangle CAP$ is slid along the x-axis until C is at (11, 0), what will the new coordinates of P be?



- 2) A fifth point, E, is located on the diagram so that $m\angle EBC = \sqrt{x} + 83$.

a Is \overleftrightarrow{AB} perpendicular to \overleftrightarrow{DC} ?

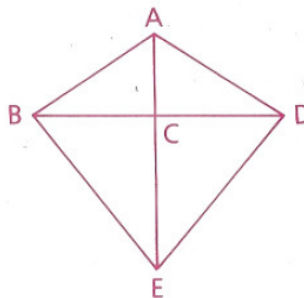
b What do we know about \overleftrightarrow{AB} and \overleftrightarrow{BE} ?



- 3) Given: $\overline{AB} \cong \overline{AD}$,
 $\overline{BC} \cong \overline{CD}$

Conclusion: $\overline{BE} \cong \overline{ED}$

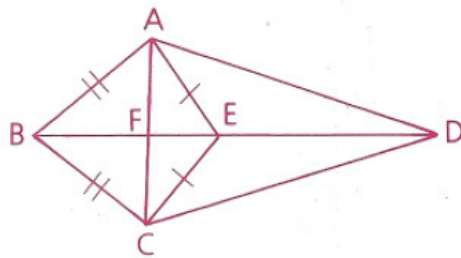
(Hint: This can be done in four steps.)



4)

Given: $\overline{AB} \cong \overline{BC}$,
 $\overline{AE} \cong \overline{EC}$

Prove: $\overline{AD} \cong \overline{DC}$ (Hint: This can be done in four steps.)



5)

Given: $\odot O$
 $\overline{AB} \cong \overline{AC}$

Prove: $\angle DBC \cong \angle DCB$

(Hint: This can be done in seven steps.)

