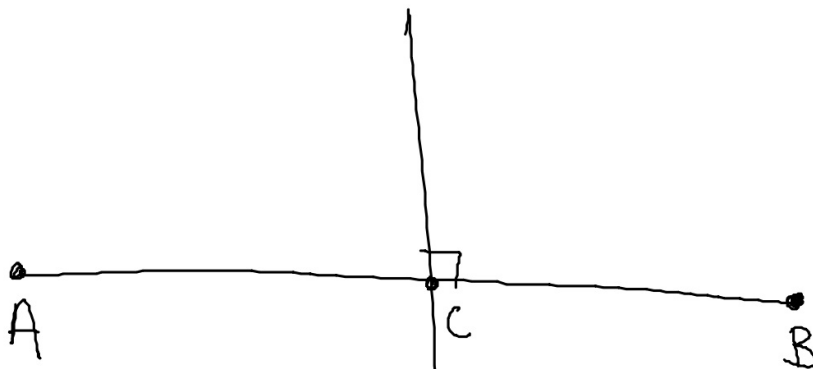


# OUR FRIEND THE PERPENDICULAR Bisector

5.2  
305

A segment or line or ray that intersects another line, ray or segment at its midpoint and is perpendicular is called a perpendicular bisector.

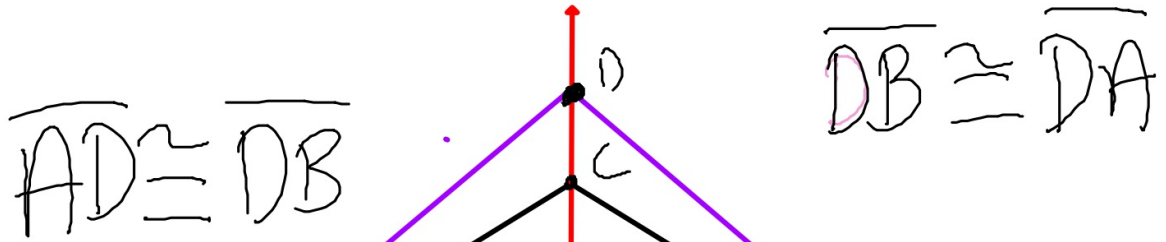
Equidistant: same distance from 2 opposite Points



IF  $\overline{AC} \cong \overline{CB}$

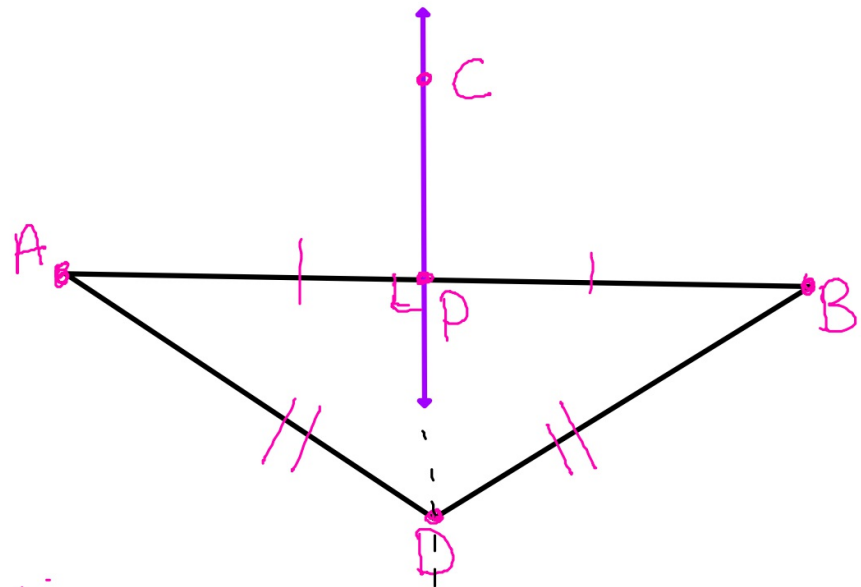
THEN  $A \neq B$

are equidistant from C.



$\overleftrightarrow{CP}$  is the perpendicular bisector of  $\overline{AB}$

TRUE:  
 $\overline{AP} \cong \overline{PB}$   
 $\overline{AC} \cong \overline{CB}$



If  $DA = DB$   
 then D lies on  
 the perpendicular bisector of  $\overline{AB}$

find x

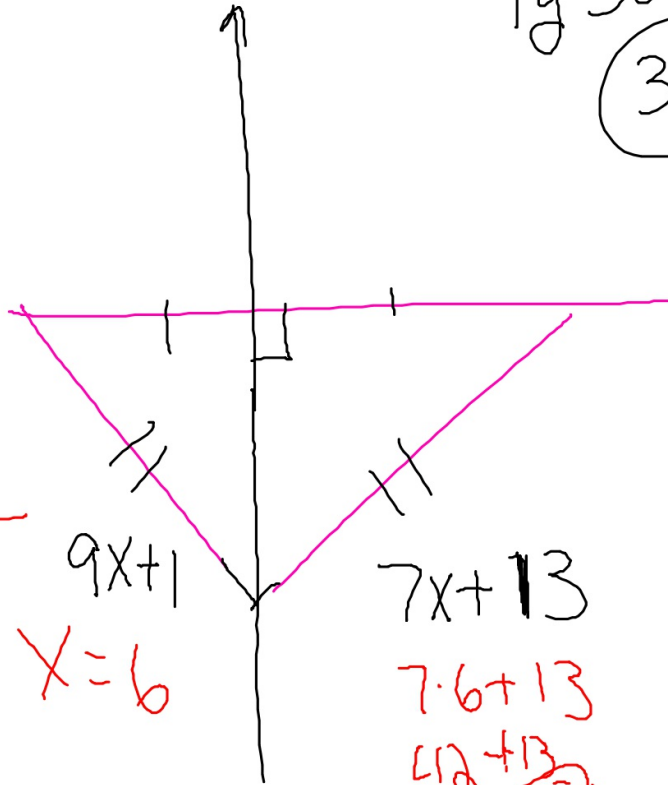
$$9x+1 = 7x+13$$

$$\begin{array}{r} -7x \quad -7x \\ \hline \end{array}$$

$$2x+1 = 13$$

$$\begin{array}{r} -1 \quad -1 \\ \hline \end{array}$$

$$\begin{array}{r} 2x = 12 \\ \frac{2}{2} \quad \frac{2}{2} \end{array}$$



$$X=6$$

$$7x+13$$

$$7 \cdot 6 + 13$$

$$42 + 13$$

$$55$$