

(5-3 HW) p180-181 / #1-20 Chap: Quadrilaterals - Day 3 HW

①  $AB=12$ ,  $EF=12$

②  $CD=2k$ ,  $EF=k$

③  $5x-8=3x$

$2x=8$

$x=4$

④  $2(3x+2)=8x$

$6x+4=8x$

$4=2x$

$2=x$

5a)  $\triangle TKO = 40$

b)  $\triangle LMK = 20$

c)  $\square TNML = 26$

d)  $\angle NOK = 34$

6a)  $\triangle NOM$ ,  $\triangle LMK$

b)  $69.28$  sq. cm

7) D, E

8) D, E,

9) D, F

10)  $AD=15$

11)  $CD=6$

12)  $x=4$

13)  $x=11$

14)  $x=10$ ,  $y=5$

15)  $x=3$ ,  $y=2$

16)  $3x+5 = \frac{1}{2}(12x-8)$

$4y+2 = 7(y-1)$

$x=3$

$y=3$

17)  $\frac{1}{2}(5x-3y) = 7$

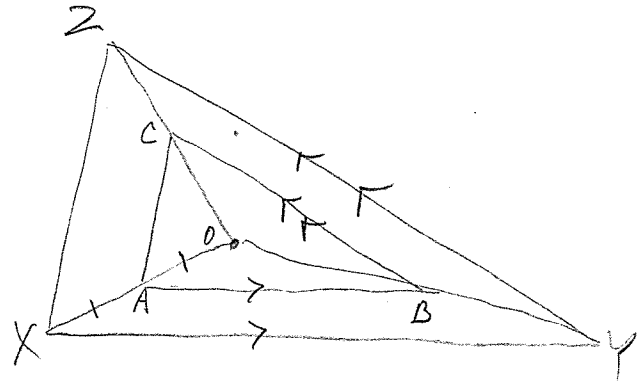
$3x-2y=8$

$x=4$

$y=2$

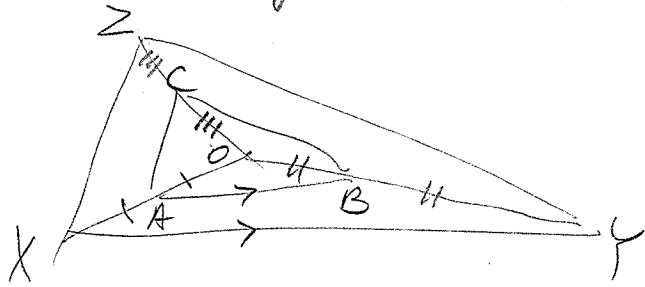
Given:  $A$  is the midpoint of  $\overline{OX}$ ;  
 $\overline{AB} \parallel \overline{XY}$ ;  $\overline{BC} \parallel \overline{YZ}$

Prove:  $\overline{AC} \parallel \overline{XZ}$

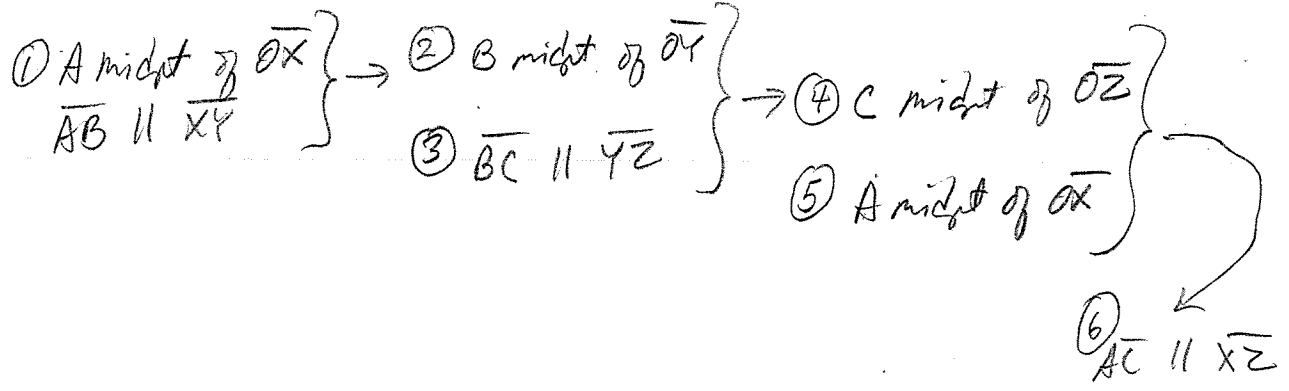


Notes:

$B$  midpt of  $\overline{OY}$  (line that has midpt of 1 side of  $\Delta$  &  $\parallel$  to 2<sup>nd</sup> side goes thru midpt of 3<sup>rd</sup> side)  
 $C$  midpt of  $\overline{OZ}$

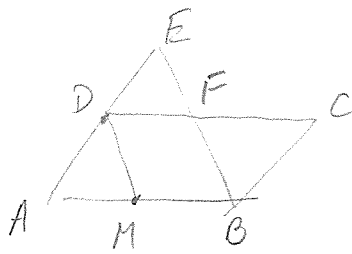


$\Rightarrow \overline{AC} \parallel \overline{XZ}$  (segment that joins 2 midpts of 2 sides of  $\Delta$  is  $\parallel$  to 3<sup>rd</sup> side)



- ① Given
- ② A line that has midpt of 1 side &  $\parallel$  to 2<sup>nd</sup> side goes thru midpt of 3<sup>rd</sup> side.
- ③ Given
- ④ A line that has midpt of 1 side &  $\parallel$  to 2<sup>nd</sup> side goes thru midpt of 3<sup>rd</sup> side.
- ⑤ Given
- ⑥ A segment that joins 2 midpts of 2 sides of  $\Delta$  is  $\parallel$  to 3<sup>rd</sup> side.

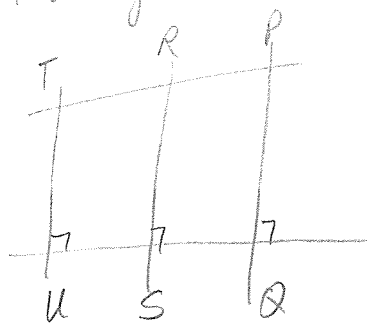
19



- ①  $\overline{DE} \parallel \overline{BC}$  → ②  $\overline{AD} \cong \overline{BC}$
- ③  $\overline{BE} \parallel \overline{MD}$   
M midpt  $\overline{AB}$  } → ④ D midpt of  $\overline{AE}$  → ⑤  $\overline{AD} \cong \overline{DE}$
- ⑥  $\overline{BC} \cong \overline{DE}$
- ⑦  $BC = DE$

- ① Given
- ②  $\overline{DE} \parallel \overline{BC}$  → opp sides  $\cong$
- ③ Given
- ④ If a line contains midpt of 1<sup>st</sup> side &  $\parallel$  to 2<sup>nd</sup> side, then goes thru midpt of 3<sup>rd</sup> side.
- ⑤ Def of midpt.
- ⑥ Transitive prop
- ⑦ Def of  $\cong$  seg.

20



- ①  $\overline{PQ}, \overline{RS}, \overline{TU}$  each  $\perp \overline{UQ}$  → ②  $\overline{PQ} \parallel \overline{RS} \parallel \overline{TU}$
- ③ R midpt  $\overline{PT}$  → ④  $\overline{TR} \cong \overline{RP}$
- ⑤  $\overline{US} \cong \overline{SQ}$

- ⑥ S midpt  $\overline{UQ}$  } → ⑧  $\overline{RS} \perp$  bisector of  $\overline{UQ}$  → ⑨ R is equidistant from U and Q.
- ⑦  $\overline{RS} \perp \overline{UQ}$

- ① Given
- ② lines  $\perp$  to same line  $\parallel$  to each other.
- ③ Given
- ④ Def. of midpt.
- ⑤ If  $\parallel$  lines cut a transversal & form  $\cong$  seg, then it will form  $\cong$  seg. on every trans.
- ⑥ Def of midpt
- ⑦ Given
- ⑧ Def of  $\perp$  bisector
- ⑨ If a pt is on  $\perp$  bisector of a seg, then it is equidistant from endpoints.