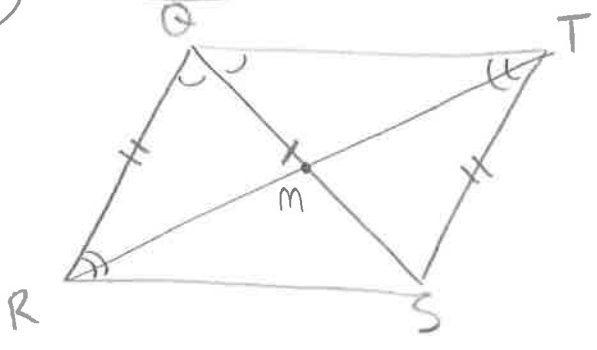


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# 14, 15, 30-32

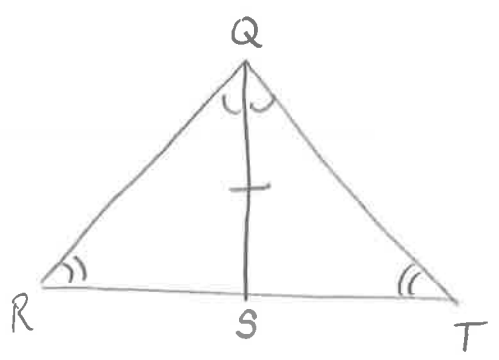
4.6



S  
 QS bisects  $\angle RQT$   
 $\angle RQS \cong \angle SQT$   
 $\angle R \cong \angle T$   
 $\overline{QS} \cong \overline{QS}$   
 $\triangle QRS \cong \triangle QTS$   
 $\overline{QR} \cong \overline{TS}$   
 $\angle QMR \cong \angle TMS$   
 $\triangle QRM \cong \triangle STM$   
 $\overline{RM} \cong \overline{MT}$   
 QS bisects  $\overline{RT}$

R  
 Given  
 Def. of bisect  
 Given  
 Reflexive Prop  
 AAS  
 CPCTC  
 Vert.  $\angle$ 's Thm  
 AAS  
 CPCTC  
 Def. of Bisect

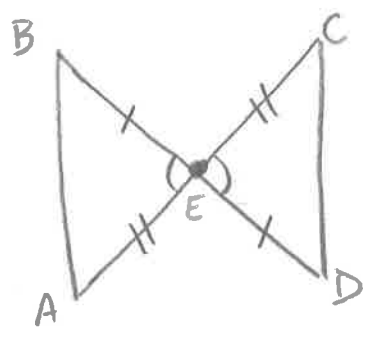
(OR)



S  
 $\overline{QS}$  bisects  $\angle RQT$   
 $\angle RQS \cong \angle TQS$   
 $\overline{QS} \cong \overline{QS}$   
 $\angle R \cong \angle T$   
 $\triangle RQS \cong \triangle TQS$   
 $\overline{RS} \cong \overline{ST}$   
 $\overline{QS}$  bisects  $\overline{RT}$

R  
 Given  
 Def. of bisect  
 Reflexive  
 Given  
 AAS  
 CPCTC  
 Def. of Bisect

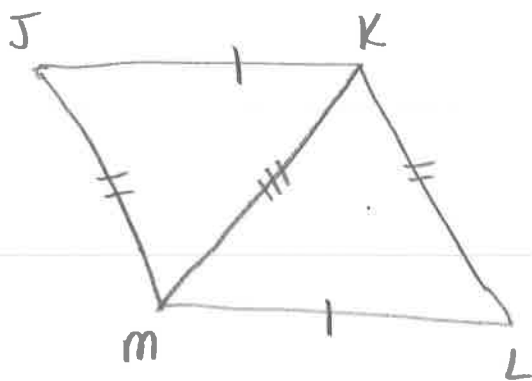
15



S  
 E midpoint of  $\overline{BD}$  and  $\overline{AC}$   
 $\overline{BE} \cong \overline{ED}$ ,  $\overline{AE} \cong \overline{EC}$   
 $\angle BEA \cong \angle CED$   
 $\triangle BEA \cong \triangle DEC$   
 $\angle A \cong \angle C$   
 $\overline{AB} \parallel \overline{CD}$

R  
 Given  
 Def. of mdpt  
 Vert.  $\angle$ 's Thm  
 SAS  
 CPCTC  
 Conv. Alt. Int  $\angle$ 's Thm

30



$$\begin{array}{l} \underline{S} \\ \overline{JK} \cong \overline{ML} \\ \overline{JM} \cong \overline{KL} \\ \overline{MK} \cong \overline{MK} \end{array}$$

$$\begin{array}{l} \triangle JKM \cong \triangle LMK \\ \angle J \cong \angle L \end{array}$$

R

Given

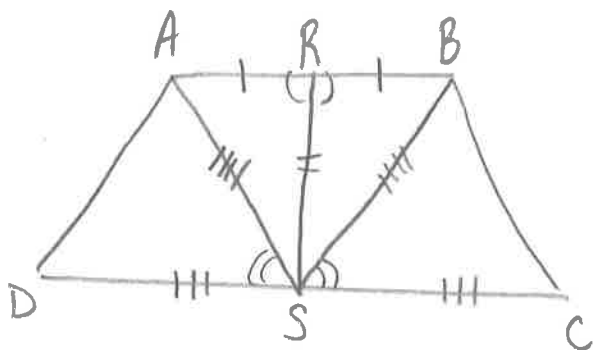
Given

Reflexive POC

SSS

CPCTC

31



$$\underline{S}$$

R mdpt of  $\overline{AB}$   
S mdpt of  $\overline{DC}$

$$\overline{RS} \perp \overline{AB}, \angle ASD \cong \angle BSC$$

$$\overline{AR} \cong \overline{RB}$$

$$\overline{RS} \cong \overline{RS}$$

$$\angle ARS + \angle BRS \text{ are right } \angle \text{'s}$$

$$\angle ARS \cong \angle BRS$$

$$\triangle ARS \cong \triangle BRS$$

$$\overline{DS} \cong \overline{CS}$$

$$\overline{AS} \cong \overline{BS}$$

$$\triangle ASD \cong \triangle BSC$$

R

Given

Given

Given

Def. of mdpt

Reflexive POC

Def. of  $\perp$ Right  $\angle \cong$  Thm

SAS

Def. of midpoint

CPCTC

SAS

32

$\triangle EDC \cong \triangle ABD$  by AAS

$$a^2 + b^2 = c^2$$

$$(ED)^2 + (10)^2 = (21)^2$$

$$(ED)^2 + 100 = 441$$

$$(ED)^2 = 341$$

$$ED = 18.46 \approx 18 \text{ ft}$$