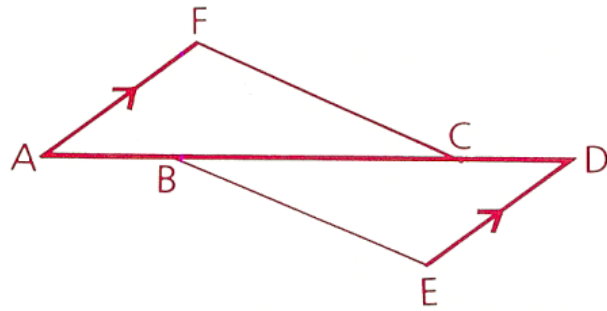


Given:  $\overline{FA} \parallel \overline{DE}$ ,  
 $\overline{FA} \cong \overline{DE}$ ,  
 $\overline{AB} \cong \overline{CD}$

Prove:  $\angle F \cong \angle E$



1	$\overline{FA} \parallel \overline{DE}$	1
2	$\angle A \cong \angle D$	2
3	$\overline{FA} \cong \overline{DE}$	3
4	$\overline{AB} \cong \overline{CD}$	4
5	$\overline{AC} \cong \overline{BD}$	5
6	$\triangle FAC \cong \triangle EDB$	6
7	$\angle F \cong \angle E$	7

1. Given

2.  $\parallel \Rightarrow$  alt int  $\angle$ s  $\cong$

3. Given

4. Given

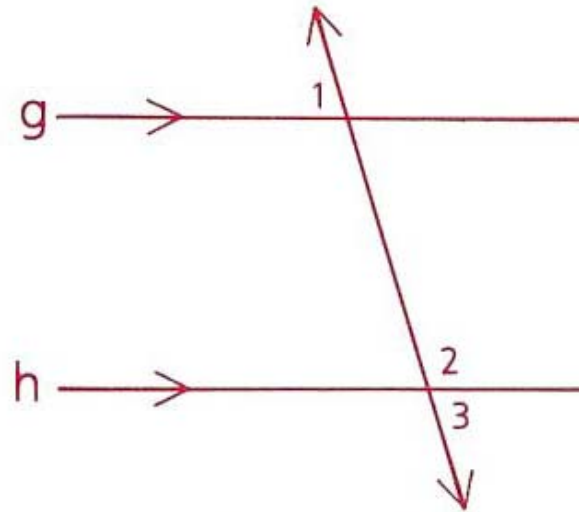
5. Addition

6. SAS

7. CPCTC

Given:  $g \parallel h$

Prove:  $\angle 1$  supp.  $\angle 2$



1  $g \parallel h$

2  $\angle 2$  supp.  $\angle 3$

3  $\angle 1 \cong \angle 3$

4  $\angle 1$  supp.  $\angle 2$

1. GIVEN

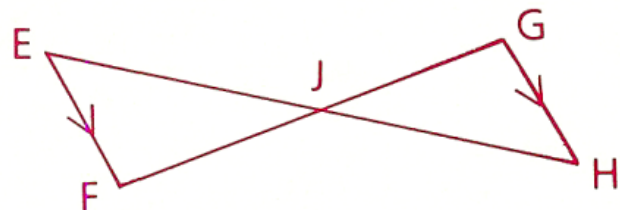
2. ST ANGLE  $\rightarrow$  SUPP ANGLES

3.  $\parallel \rightarrow$  alt ext angles congruent

4. substitution

2 Given:  $\overline{EF} \parallel \overline{GH}$ ,  
 $\overline{EF} \cong \overline{GH}$

Conclusion:  $\overline{EJ} \cong \overline{JH}$



Statements	Reasons
1. $EF \parallel GH$	1. Given
2. $\angle JEF \cong \angle JHG$ $\angle JFE \cong \angle JGH$	2. $\parallel \rightarrow$ alt int $\angle$ s $\cong$
3. $EF \cong GH$	3. Given
4. $\triangle JEF \cong \triangle JHG$	4. ASA (2, 3, 2)
5. $EJ \cong JH$	5. CPCTC



6 Given:  $\overline{TE} \parallel \overline{XW}$

$\overline{TE} \cong \overline{XW}$

Concl:  $\overline{TX} \parallel \overline{EW}$

1  $\overline{TE} \parallel \overline{XW}$

2  $\overline{TE} \cong \overline{XW}$

3 Draw  $\overline{TW}$

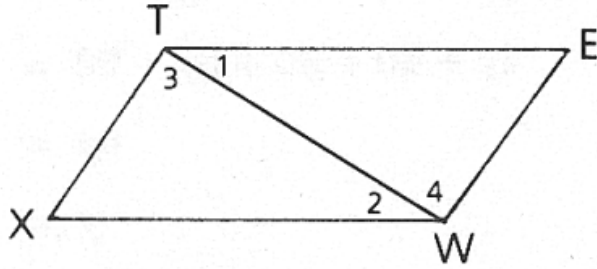
4  $\overline{TW} \cong \overline{TW}$

5  $\angle 1 \cong \angle 2$

6  $\triangle TEW \cong \triangle WXT$

7  $\angle 3 \cong \angle 4$

8  $\overline{TX} \parallel \overline{EW}$



1 Given

2 Given

3 Aux

4 Reflexive prop

5  $\parallel \Rightarrow$  alt int  $\angle s \cong$

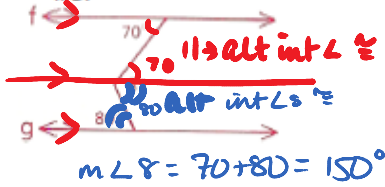
6 SAS (2, 5, 4)

7 CPCTC

8 Alt int  $\angle s \cong \Rightarrow \parallel$

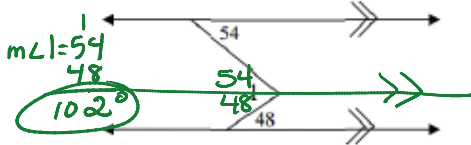
10a

If  $f \parallel g$ , find  $m\angle 8$ : \_\_\_\_\_

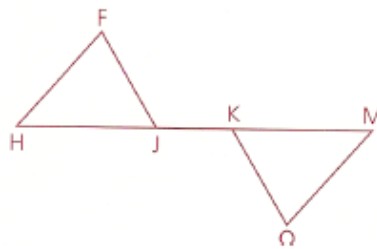


10b

Find  $m\angle 1$ : \_\_\_\_\_

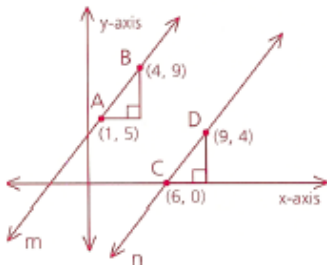


14 Given:  $\overline{FJ} \parallel \overline{KO}$ ,  
 $\overline{FH} \parallel \overline{MO}$ ,  
 $\overline{HK} \cong \overline{MJ}$   
 Prove:  $\overline{FH} \cong \overline{MO}$



Either **1** or \_\_\_\_\_. Assume \_\_\_\_\_. It's given  $\overline{FH} \parallel \overline{MO}$ .  $\implies$  \_\_\_\_\_ so  
 \_\_\_\_\_. It's also given that  $\overline{HK} \cong \overline{MJ}$ . Then  $\overline{HJ} \cong \overline{KM}$  by \_\_\_\_\_. Thus  $\triangle HJF \cong$  \_\_\_\_\_ by  
 \_\_\_\_\_. Then  $\angle FJH \cong$  \_\_\_\_\_ by \_\_\_\_\_.  
 \_\_\_\_\_. But this is impossible because it contradicts the given \_\_\_\_\_. Consequently the assumption  
 is false and \_\_\_\_\_ is the only other possibility.

18 Explain why lines  $m$  and  $n$  are parallel.

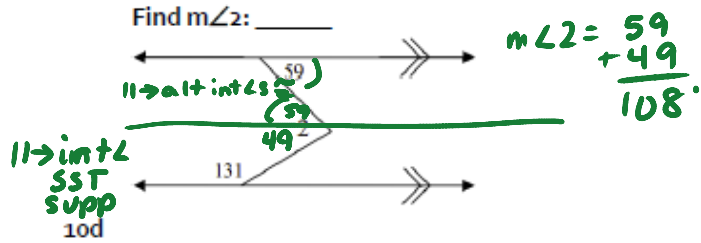


19 Given:  $\angle C$  supp.  $\angle D$   
 Prove:  $\angle A$  supp.  $\angle B$

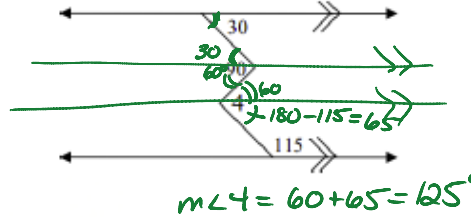


10c

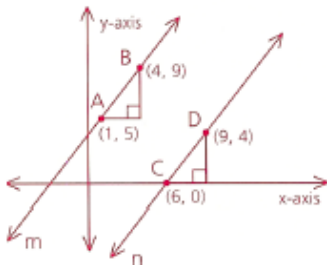
Find  $m\angle 2$ : \_\_\_\_\_



Find  $m\angle 4$ : \_\_\_\_\_



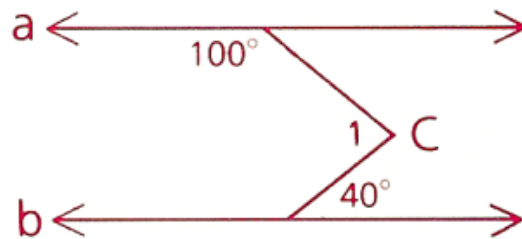
18 Explain why lines  $m$  and  $n$  are parallel.



19 Given:  $\angle C$  supp.  $\angle D$   
 Prove:  $\angle A$  supp.  $\angle B$



(A crook problem)  
If  $a \parallel b$ , find  $m\angle 1$ .



PROMISE: you will see this on tests and the exam.

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