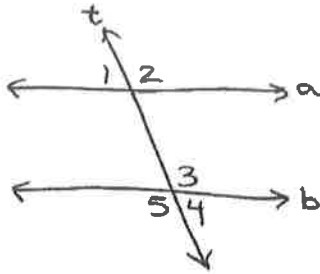


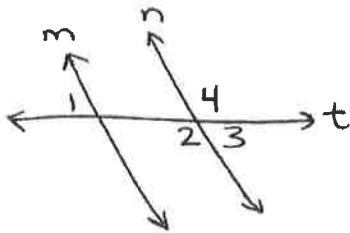
1) Given:  $a \parallel b$   
Prove:  $\angle 1 \cong \angle 4$  (w/out AEATH)



Okay to write this step 1st as well

Conclusions	Justifications
$a \parallel b$	Given
$\angle 2 \cong \angle 3$	CAP
$\angle 1 \text{ supp } \angle 2$	LPP
$\angle 1 \text{ supp } \angle 3$	Substitution
$\angle 3 \text{ supp } \angle 4$	LPP
$\angle 1 \cong \angle 4$	CST

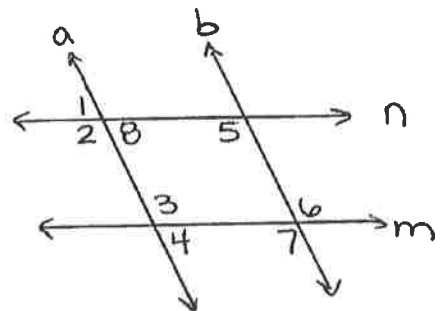
2) Given:  $m \parallel n$   
Prove:  $\angle 1$  is supp to  $\angle 2$



Conclusions	Justifications
$m \parallel n$	Given
$\angle 1 \cong \angle 3$	AEATH
$\angle 2 \text{ supp } \angle 3$	LPP
$\angle 1 \text{ supp } \angle 2$	Substitution

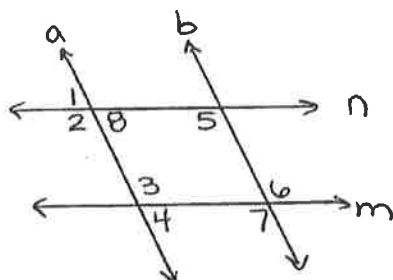
3) Which lines are parallel and why (what converse postulate/theorem)?

IF  $\angle 2 \cong \angle 3$ :  $m \parallel n$ , by Converse of AIATH  
 IF  $\angle 2 \cong \angle 5$ :  $a \parallel b$ , by Converse of CAP  
 IF  $\angle 4 \cong \angle 8$ :  $m \parallel n$ , by Converse of CAP  
 IF  $\angle 4$  is supp to  $\angle 7$ :  $a \parallel b$ , by Converse of SSIATH



4) Given:  $\angle 4$  is supp to  $\angle 7$   
 $\angle 3 \cong \angle 5$

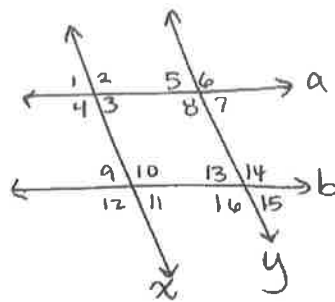
Prove:  $n \parallel m$



Conclusions	Justifications
$\angle 4 \text{ supp } \angle 7$	Given
$a \parallel b$	Converse of SSIATH
$\angle 3 \cong \angle 7$	AIATH
$\angle 3 \cong \angle 5$	Given
$\angle 5 \cong \angle 7$	TPC
$n \parallel m$	Converse of CAP

5) Given:  $a \parallel b$ ,  $x \parallel y$

Prove:  $\angle 3 \cong \angle 13$  two different ways!

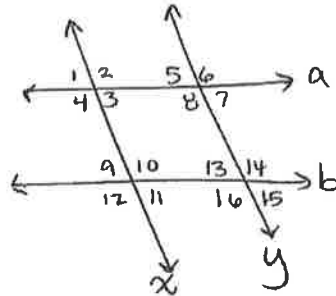


Conclusions	Justifications
$x \parallel y$	Given
$\angle 3 \cong \angle 5$	AIA Th
$a \parallel b$	Given
$\angle 5 \cong \angle 13$	CAP
$\angle 3 \cong \angle 13$	TPC

Conclusions	Justifications
$a \parallel b$	Given
$\angle 3$ supp $\angle 10$	SSIA Th
$x \parallel y$	Given
$\angle 10$ supp $\angle 13$	SSIA Th
$\angle 3 \cong \angle 13$	CST

6) Given:  $a \parallel b$ ,  $x \parallel y$

Prove:  $\angle 4$  is supp to  $\angle 15$  two different ways!



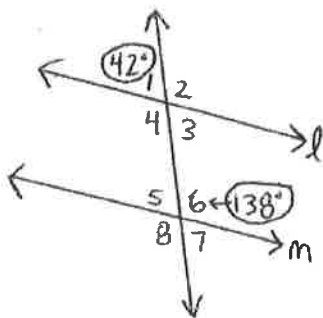
Conclusions	Justifications
$a \parallel b$	Given
$\angle 4 \cong \angle 10$	AIA Th
$x \parallel y$	Given
$\angle 10 \cong \angle 16$	AIA Th
$\angle 4 \cong \angle 16$	TPC
$\angle 15$ supp $\angle 16$	LPP
$\angle 4$ supp $\angle 15$	Substitution

Conclusions	Justifications
$x \parallel y$	Given
$\angle 4 \cong \angle 8$	CAP
$a \parallel b$	Given
$\angle 8$ supp $\angle 13$	SSIA Th
$\angle 4$ supp $\angle 13$	Substitution
$\angle 13 \cong \angle 15$	VAT
$\angle 4$ supp $\angle 15$	Substitution

7) Let's try using "definitions" as justifications... ©

Given:  $m\angle 1 = 42^\circ$ ,  $m\angle 6 = 138^\circ$

Prove:  $l \parallel m$



CONCLUSION	JUSTIFICATION
1) $m\angle 1 = 42^\circ$	1) <u>Given</u>
2) $m\angle 3 = 42^\circ$	2) <u>VAT</u>
3) $m\angle 6 = 138^\circ$	3) <u>Given</u>
4) $\angle 3$ is supp to $\angle 6$	4) Definition of <u>supplementary</u>
5) $\angle 3$ and $\angle 6$ are $180^\circ$	5) Definition of <u>SSIA</u>
6) $l \parallel m$	6) <u>Converse of SSIATH</u>