

Name, Date, Hour:

Key

Learning Target:

3.3:

use converse relationships to solve problems

Homework:

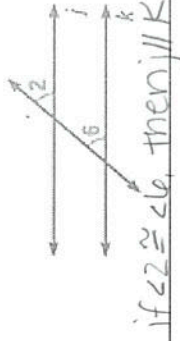
pg 165

Day 4 #4-16 even #20-28 even

BOX 1

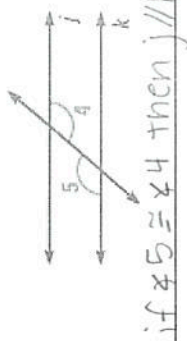
Converse of Corresponding Angles Postulate

If two lines are cut by a transversal so the Corresponding \angle 's are congruent, then the lines are parallel.



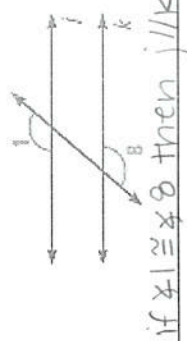
Converse of Alternate Interior Angles Theorem

If two lines are cut by a transversal so the AIA are \cong , then the lines are //.



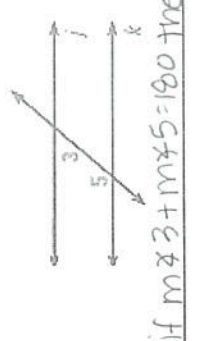
Converse of Alternate Exterior Angles Theorem

If two lines are cut by a transversal so the AEA are \cong , then the lines are //.



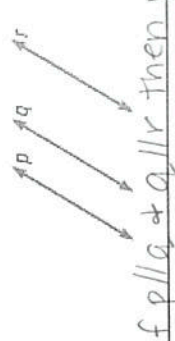
Converse of Same Side (Consecutive) Interior Angles Theorem

If two lines are cut by a transversal so the SSIA are supp, then the lines are //.



Transitive Property of Parallel Lines

If two lines are parallel to the same line, then they are parallel to each other.



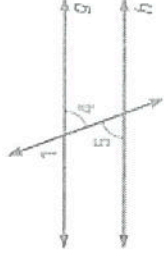
CANNOT USE

IN PROOF!

BOX 3

Proof of Converse of Alternate Interior Angles Theorem

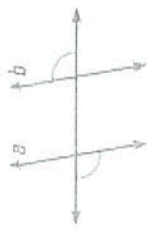
Given: $\angle 4 \cong \angle 5$
Prove: $g \parallel h$



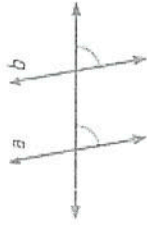
| | |
|--|--|
| S | R |
| <ol style="list-style-type: none"> $\angle 4 \cong \angle 5$ $\angle 1 \cong \angle 4$ $\angle 1 \cong \angle 5$ $g \parallel h$ | <ol style="list-style-type: none"> given vert \angles \cong thm Substitution Converse of Corr. \angle's Post. |

BOX 2

Can you prove that lines a and b are parallel? Explain why or why not.



Yes b/c AEA are \cong

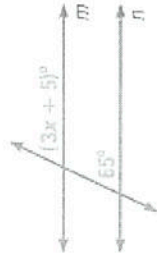


Yes b/c C.A. are \cong

Find the value of x that makes $m \parallel n$.

$3x + 5 = 65$
 $3x = 60$
 $x = 20$

if $x = 20$
then $m \parallel n$



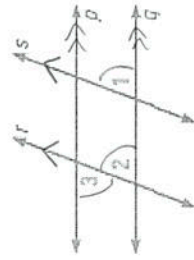
BOX 4

Write a paragraph proof.

In the figure, $r \parallel s$ and $\angle 1$ is congruent to $\angle 3$.
Prove $p \parallel q$.

Write 2-column proof

| | |
|--|--|
| S | R |
| <ol style="list-style-type: none"> $r \parallel s$ $\angle 1 \cong \angle 3$ $\angle 1 \cong \angle 2$ $\angle 3 \cong \angle 2$ $p \parallel q$ | <ol style="list-style-type: none"> given given Corr \angle's Post Transitive Prop of \cong Conv. of AIA Theorem |

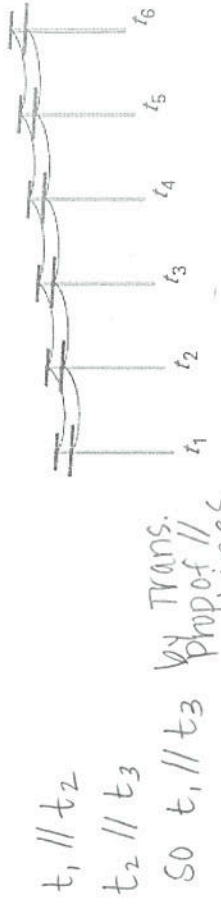


TRANSITIONAL WORDS

So then therefore

BOX 5

Each utility pole shown is parallel to the pole immediately to its right. Use the Transitive Property of Parallel Lines to explain why the leftmost pole is parallel to the rightmost pole.



$t_1 \parallel t_2$
 $t_2 \parallel t_3$
 So $t_1 \parallel t_3$ by Trans. Prop of \parallel Lines
 $t_3 \parallel t_4$
 So $t_1 \parallel t_4$ by Trans. Prop of \parallel Lines
 $t_4 \parallel t_5$
 So $t_1 \parallel t_5$ by Trans. Prop of \parallel Lines
 $t_5 \parallel t_6$

So $t_1 \parallel t_6$ by Trans. Prop of \parallel Lines