

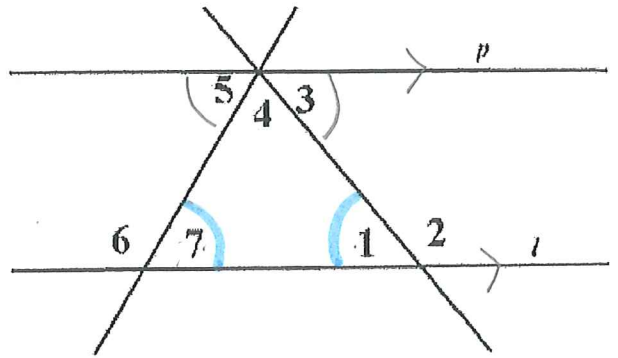
Name: \_\_\_\_\_ Date: \_\_\_\_\_ Hr: \_\_\_\_\_

**Parallels Cut by Transversals Proofs Assignment**

1. Given:  $\angle 7 \cong \angle 1$  and  $l \parallel p$

Prove:  $\angle 5 \cong \angle 3$

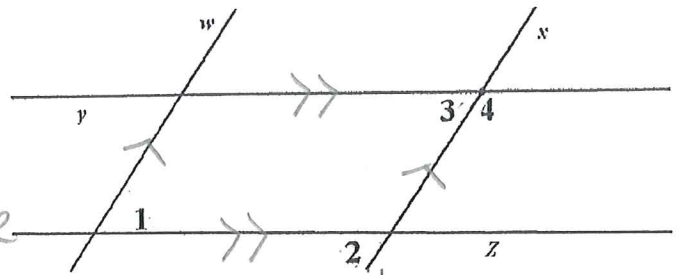
- 1.  $\angle 7 \cong \angle 1$ ,  $l \parallel p$  1. given
- 2.  $\angle 7 \cong \angle 5$  2. alternate interior  $\angle$  are  $\cong$
- $\angle 1 \cong \angle 3$
- 3.  $\angle 7 \cong \angle 3$  3. substitution
- 4.  $\angle 5 \cong \angle 3$  4. substitution



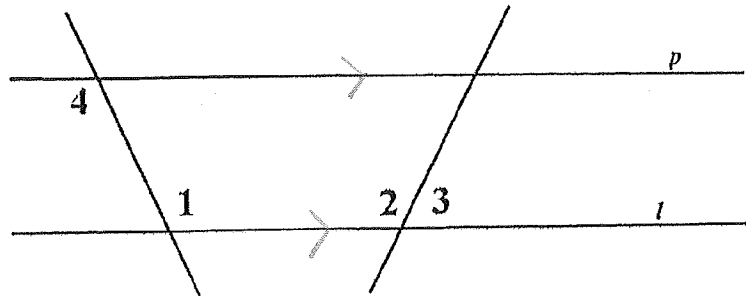
2. Given:  $w \parallel x$  and  $y \parallel z$

Prove:  $\angle 1$  and  $\angle 4$  are supplementary

- 1.  $w \parallel x$  1. given
- $y \parallel z$
- 2.  $\angle 1 \cong \angle 2$  2. alternate interior  $\angle$  are  $\cong$
- 3.  $\angle 2 \cong \angle 3$  3. corresponding angles are  $\cong$
- 4.  $\angle 3 + \angle 4 = 180$  4. Linear Pairs are supplementary
- 5.  $\angle 2 + \angle 4 = 180$  5. substitution
- 6.  $\angle 1 + \angle 4 = 180$  6. substitution
- 7.  $\angle 1$  and  $\angle 4$  are supplementary 7. def of supplementary



3. Given:  $\angle 1 \cong \angle 2$  and  $l \parallel p$   
Prove:  $\angle 3 + \angle 4 = 180^\circ$



1.  $\angle 1 \cong \angle 2$   
 $l \parallel p$

1. given

2.  $\angle 4 \cong \angle 1$

2. alternate interior  $\angle$  are  $\cong$

3.  $\angle 2 + \angle 3 = 180$

3. Linear Pairs are supplementary

4.  $\angle 1 + \angle 3 = 180$

4. substitution

5.  $\angle 4 + \angle 3 = 180$

5. substitution