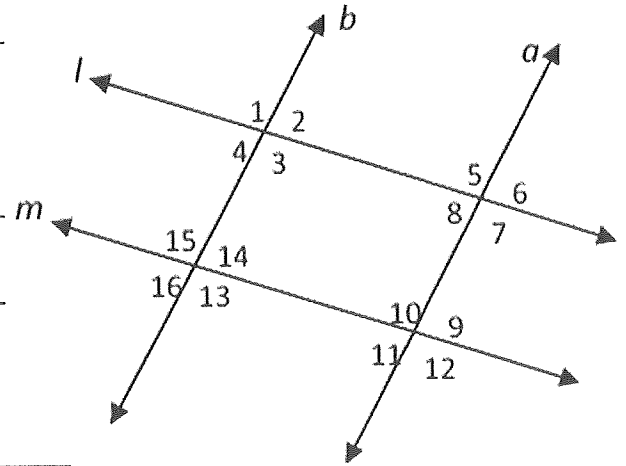


Name: \_\_\_\_\_

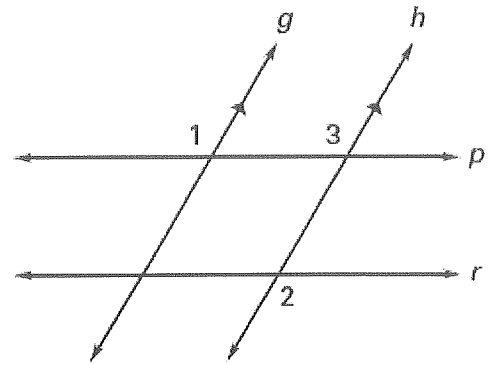
# Proving Parallel Worksheet

Directions: Given the figure to the right, describe if  $a \parallel b$  or  $m \parallel l$  based on the information provided.

1.  $\angle 3 \cong \angle 13$  \_\_\_\_\_ // \_\_\_\_\_ because \_\_\_\_\_
2.  $\angle 3 \cong \angle 7$  \_\_\_\_\_ // \_\_\_\_\_ because \_\_\_\_\_
3.  $\angle 7 \cong \angle 10$  \_\_\_\_\_ // \_\_\_\_\_ because \_\_\_\_\_
4.  $\angle 1 \cong \angle 13$  \_\_\_\_\_ // \_\_\_\_\_ because \_\_\_\_\_
5.  $\angle 6 \cong \angle 9$  \_\_\_\_\_ // \_\_\_\_\_ because \_\_\_\_\_
6.  $\angle 3 + \angle 14 = 180$  \_\_\_\_\_ // \_\_\_\_\_ because \_\_\_\_\_
7.  $\angle 2 + \angle 5 = 180$  \_\_\_\_\_ // \_\_\_\_\_ because \_\_\_\_\_

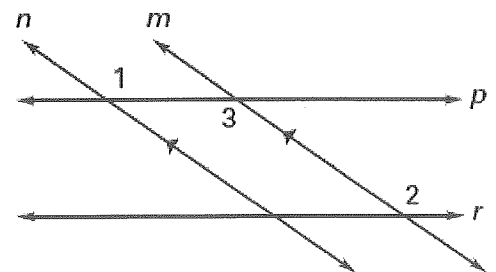


8. Given:  $g \parallel h$ ,  $\angle 1 \cong \angle 2$   
 Prove:  $p \parallel r$



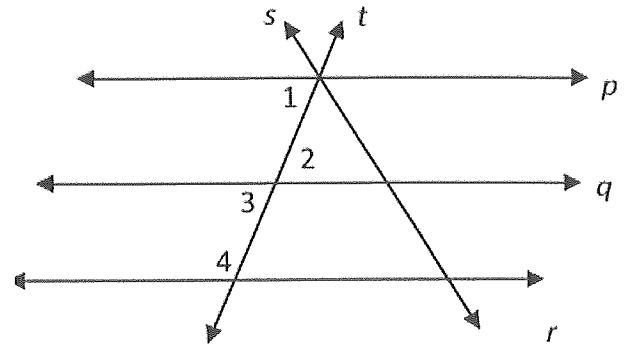
Statements	Reasons
1. $g \parallel h$	1.
2. $\angle 1 \cong \angle 3$	2.
3. $\angle 1 \cong \angle 2$	3.
4. $\angle 3 \cong \angle 2$	4.
5.	5.

9. Given:  $n \parallel m$  and  $\angle 1 \cong \angle 2$   
 Prove:  $p \parallel r$



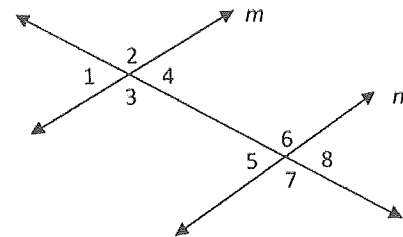
Statements	Reasons
1. $n \parallel m$	1.
2. $\angle 1 \cong \angle 3$	2.
3. $\angle 1 \cong \angle 2$	3.
4. $\angle 3 \cong \angle 2$	4.
5.	5.

10. Given:  $q \parallel r$ ,  $\angle 1$  and  $\angle 4$  are supplementary  
 Prove:  $p \parallel q$



Statements	Reasons
1.	1.
2. $\angle 1 + \angle 4 = 180$	2.
3. $\angle 3 + \angle 4 = 180$	3.
4. $\angle 1 + \angle 4 = \angle 3 + \angle 4$	4.
5. $\angle 1 \cong \angle 3$	5.
6.	6.

11. Given:  $\angle 2$  and  $\angle 8$  are supplementary  
 Prove:  $m \parallel n$



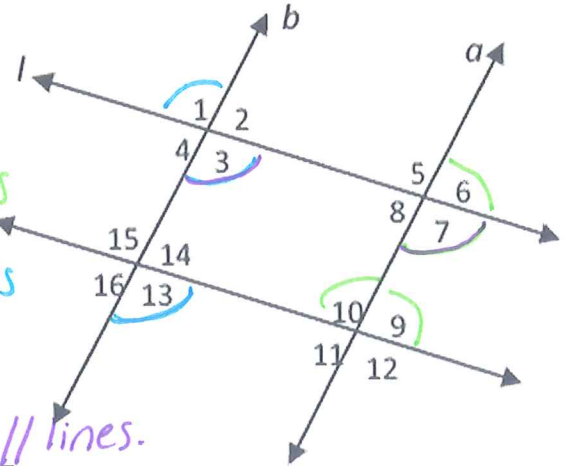
Statements	Reasons
1.	1.
2. $\angle 2 + \angle 8 = 180$	2.
3. $\angle 2 + \angle 4 = 180$	3.
4. $\angle 2 + \angle 8 = \angle 2 + \angle 4$	4.
5. $\angle 8 \cong \angle 4$	5.
6.	6.

Name: Key

# Proving Parallel Worksheet

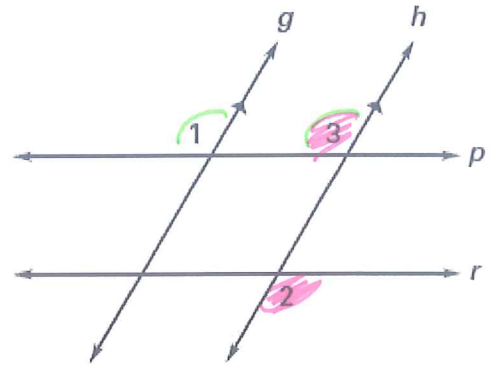
Directions: Given the figure to the right, describe if  $a \parallel b$  or  $m \parallel l$  based on the information provided.

- $\angle 3 \cong \angle 13$   $l \parallel m$  because  $\cong$  corr.  $\angle$ s form  $\parallel$  lines
- $\angle 3 \cong \angle 7$   $a \parallel b$  because  $\cong$  corr.  $\angle$ s form  $\parallel$  lines
- $\angle 7 \cong \angle 10$   $l \parallel m$  because  $\cong$  alt. int.  $\angle$ s form  $\parallel$  lines
- $\angle 1 \cong \angle 13$   $l \parallel m$  because  $\cong$  alt. ext.  $\angle$ s form  $\parallel$  lines
- $\angle 6 \cong \angle 9$   $l \parallel m$  because  $\cong$  corr.  $\angle$ s form  $\parallel$  lines.
- $\angle 3 + \angle 14 = 180$   $l \parallel m$  because suppl. con. int.  $\angle$ s form  $\parallel$  lines.
- $\angle 2 + \angle 5 = 180$   $a \parallel b$  because suppl. con. int.  $\angle$ s form  $\parallel$  lines



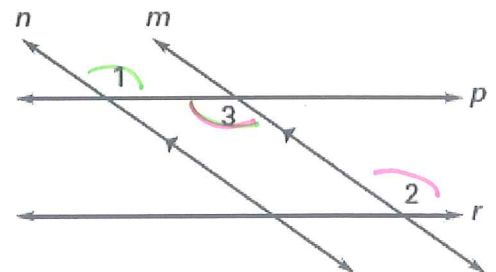
8. Given:  $g \parallel h$ ,  $\angle 1 \cong \angle 2$   
 Prove:  $p \parallel r$

Statements	Reasons
1. $g \parallel h$	1. Given
2. $\angle 1 \cong \angle 3$	2. $\parallel$ lines form $\cong$ corr. $\angle$ s.
3. $\angle 1 \cong \angle 2$	3. Given
4. $\angle 3 \cong \angle 2$	4. Substitution
5. $p \parallel r$	5. $\cong$ alt. ext. $\angle$ s form $\parallel$ lines



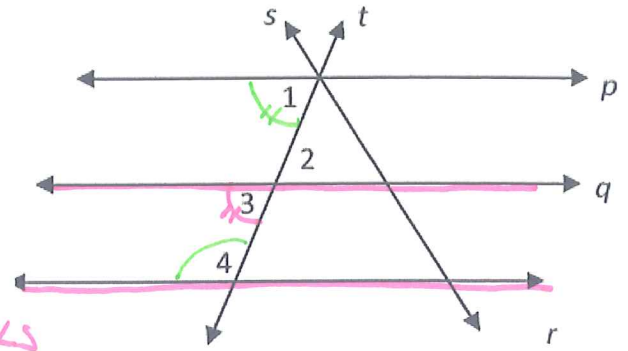
9. Given:  $n \parallel m$  and  $\angle 1 \cong \angle 2$   
 Prove:  $p \parallel r$

Statements	Reasons
1. $n \parallel m$	1. Given
2. $\angle 1 \cong \angle 3$	2. $\parallel$ lines form $\cong$ alt. int. $\angle$ s.
3. $\angle 1 \cong \angle 2$	3. Given
4. $\angle 3 \cong \angle 2$	4. Substitution
5. $p \parallel r$	5. $\cong$ alt. int. $\angle$ s form $\parallel$ lines.



10. Given:  $q \parallel r$ ,  $\angle 1$  and  $\angle 4$  are supplementary  
 Prove:  $p \parallel q$

Statements	Reasons
1. $q \parallel r$ , $\angle 1$ and $\angle 4$ are suppl.	1. Given
2. $\angle 1 + \angle 4 = 180$	2. def of suppl.
3. $\angle 3 + \angle 4 = 180$	3. // lines form suppl. con. int $\angle$ s
4. $\angle 1 + \angle 4 = \angle 3 + \angle 4$ <del><math>\angle 4</math></del> <del><math>\angle 4</math></del>	4. substitution
5. $\angle 1 \cong \angle 3$	5. Subtraction $(-)$
6. $p \parallel q$	6. $\cong$ corr. $\angle$ s form // lines.



11. Given:  $\angle 2$  and  $\angle 8$  are supplementary  
 Prove:  $m \parallel n$

Statements	Reasons
1. $\angle 2$ and $\angle 8$ are suppl.	1. Given
2. $\angle 2 + \angle 8 = 180$	2. def of suppl.
3. $\angle 2 + \angle 4 = 180$	3. linear pairs are suppl.
4. $\angle 2 + \angle 8 = \angle 2 + \angle 4$ <del><math>\angle 2</math></del> <del><math>\angle 2</math></del>	4. substitution
5. $\angle 8 \cong \angle 4$	5. Subtraction
6. $m \parallel n$	6. $\cong$ corr. $\angle$ s form // lines

