NAME _____ Date _____ Pd __

*3.3 Parallel & Perpendicular Line Proofs DAY ONE CYU*

| CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Corresponding Angles	1, 2	3, 5, 7	6, 7, 8
Alternate Interior Angles	1	2, 3, 5, 7	2, 6, 7, 8
Alternate Exterior Angles	1	3, 5, 7	3, 6, 7, 8
Same-Side Interior Angles		5, 7	4, 6, 7, 8
Same-Side Exterior Angles	5	5, 7	6, 7, 8
Vertical Angles			7, 8
Transitive POE/POC			7, 8
AIA Converse Theorem			7, 8
Given			7, 8
Corresponding Angles Converse Theorem			7, 8
Linear Pair			7, 8

1. Two lines are cut by a transversal. Which angle pairs MUST be congruent for the lines to be parallel?

2. Find the value of x that makes line m and n parallel. Explain your reasoning in words or show your work.
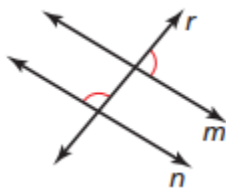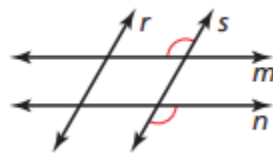   a.
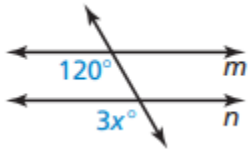
    b.
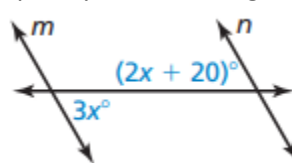
3. Decide whether there is enough information to prove that lines m and n are parallel. If so, state the theorem you would use or write the conditional statement in if-then form.
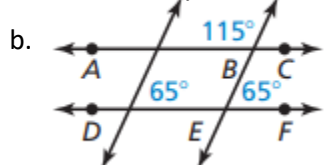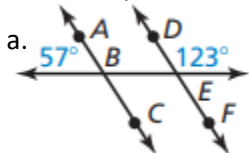   a.

    b.

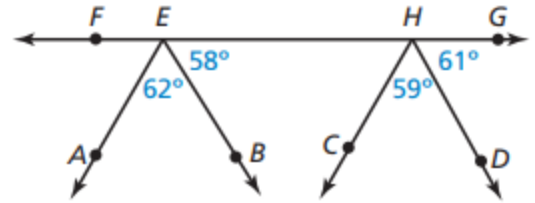4. Describe and correct the error the reasoning.

    Conclusion: $a \parallel b$

5. Are $\overleftrightarrow{AC}$ & $\overleftrightarrow{DF}$ parallel? Explain your reasoning in words or show your work.
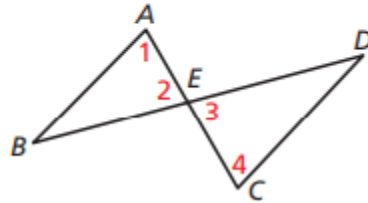   a.

    b.

6. **REASONING**: Use the diagram. Which rays are parallel? Which rays are not parallel? Explain your reasoning in if-then form or with algebraic work.
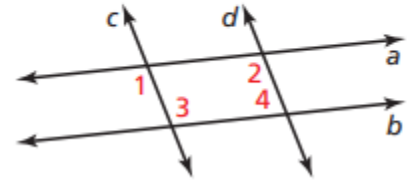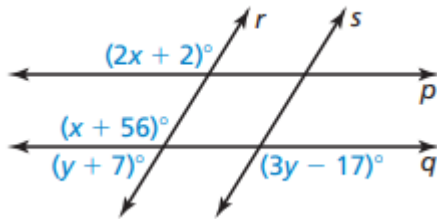

7. Write a two-column proof.

   a. **Given** $\angle 1 \cong \angle 2, \angle 3 \cong \angle 4$
      Prove $\overline{AB} \parallel \overline{CD}$

   b. **Given** $a \parallel b, \angle 2 \cong \angle 3$
      Prove $c \parallel d$

8. **MATHEMATICAL CONNECTIONS:** Use the diagram.

   a. Find the value of x that makes p||q.

   b. Find the value of y that makes r || s.

   c. Can r be parallel to s and can p be parallel to q at the same time? Explain your reasoning in words.

CYU Reflection: *How far can you go: basic, intermediate, or advanced?*

Rate your mastery level!
How confident are you with the skills this CYU covered? Circle the score you would give yourself.

| 1   2 | 3   4   5 | 6   7   8 |
| Basic | Intermediate | Advanced Solved ALL! |