

1-2. M-I-U System

Undefined terms: letters M, I, and U

Definition: x means any string of I's or U's

- Postulates:
- 1) If a string of letters ends in "I", then you can add a "U".
 - 2) If you have Mx , then you can add x to get Mxx .
 - 3) If 3 I's occur (III), then you may substitute U in their place.
 - 4) If UU occurs, then you drop it.

1. Given: MIIUII
Prove: MIIU

2. Given: MUIIIIU
Prove: MUIUI

Statements	Reasons

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3-5. Identify the following terms by the given definition. Sketch the description.

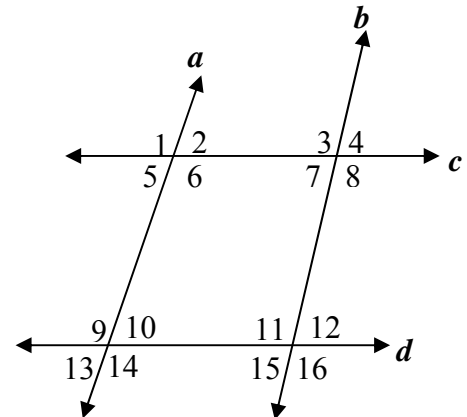
3. Two angles that share a common vertex and a common side but have no interior points in common.
4. Two lines that do not intersect and are not coplanar.
5. Two non-adjacent exterior angles on different sides of the transversal.

6-8. Determine which lines, if any, are parallel given the listed information. Explain your answer. Consider each problem independently.

6. $\angle 1 = \angle 9$

7. $\angle 10$ and $\angle 11$ are supplementary

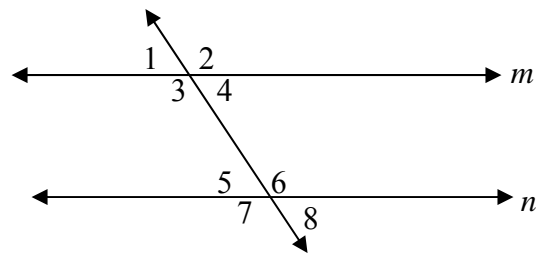
8. $\angle 4 = \angle 7$



9-10. Given $m \parallel n$. Solve for x . Consider each problem independently.

9. $\angle 2 = 5x + 14$
 $\angle 8 = 3x - 42$

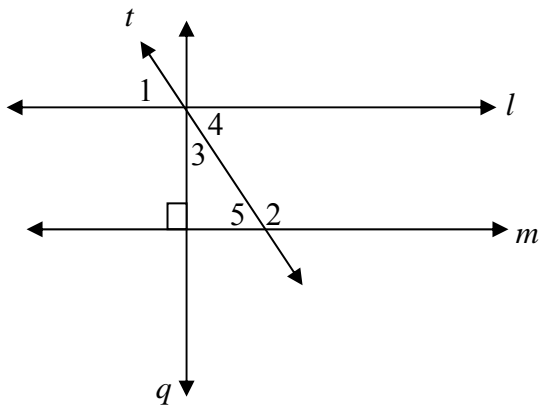
10. $\angle 1 = 7x + 4$
 $\angle 5 = 3x + 52$



11. a. Simplify. $\frac{5m+10}{2m^2+3m+1} \div \frac{m^2-2m-8}{2m^2-7m-4}$

b. Factor. $4x^2+16x+7$

12. In the accompanying diagram, parallel lines l and m are cut by transversals t and q . If $m\angle 5 = 40^\circ$, find $m\angle 1$, $m\angle 2$, $m\angle 3$ and $m\angle 4$.



13. In the accompanying diagram, l and m are parallel lines. Find $m\angle 1$, $m\angle 2$, $m\angle 3$, $m\angle 4$ and $m\angle 5$.

