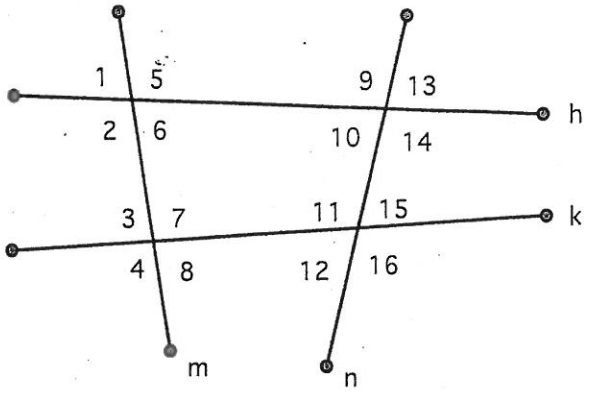
3.1-3 RWS #2 Student: _____

#1-8, Name the relationship that exists between the listed angles. If none exists right "None".

1. <1 and <8
2. <9 and <10
3. <7 and <15
4. <2 and <3
5. <6 and < 11
6. <10 and <13
7. <6 and <9
8. <13 and <11

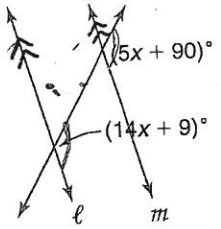


#9-12, Name the transversal for the problem named from above.

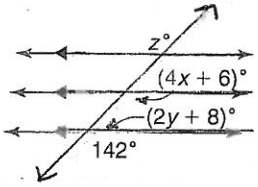
9. #3
10. #1
11. #7
12. #4

13-15, Solve for *x*, *y* and *z*.

13.



14.



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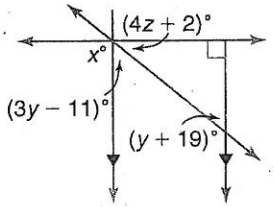
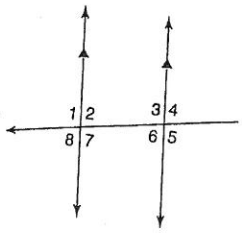


#16-17, Refer to the figure at right.

16. If $m\angle 4 = 2x - 25$ and $m\angle 8 = x + 26$, find $m\angle 2$. Explain your reasoning.

17. If $m\angle 6 = 2x + 43$ and $m\angle 7 = 5x + 11$ find $m\angle 5$. Explain your reasoning.



#18-22, Given the following information determine which lines, if any, are parallel and state your reason. ***Hint: you're working backwards here, what word is necessary?***

18. $\angle 1 = \angle 7$

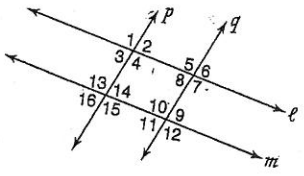
19. $\angle 16 = \angle 3$

20. $m\angle 14 + m\angle 10 = 180$

21. $\angle 4 = \angle 10$

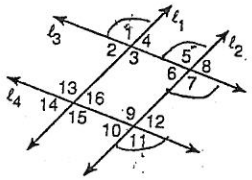
22. $m\angle 8 + m\angle 10 = 180$

23. $\angle 4 = \angle 13$



#24-27, Write a two-column proof for each. ***Hint: If you're proving the lines are parallel you're working backwards.***

24. *Given:* $\ell_1 \parallel \ell_2$ and $\ell_3 \parallel \ell_4$
Prove: $\angle 1 \cong \angle 11$



25. ***Given:*** $a \parallel b$, $\angle 1 \cong \angle 2$
Prove: $c \parallel d$