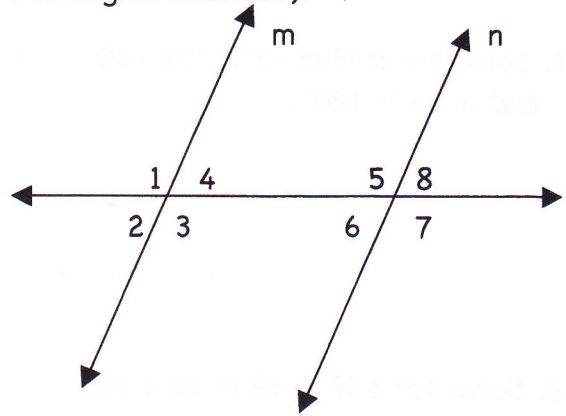


Finding Angle Measures with Indirect Relationships

Using the diagram at the right, answer the following questions. Note: $m \parallel n$.
Explain how you determined your answer (how are the angles related?).



1. If $m \angle 1 = 100^\circ$, what is $m \angle 8$?

2. If $m \angle 4 = 68^\circ$, what is $m \angle 6$?

3. If $m \angle 3 = 102^\circ$, what is $m \angle 6$?

4. If $m \angle 7 = 98^\circ$, what is $m \angle 1$?

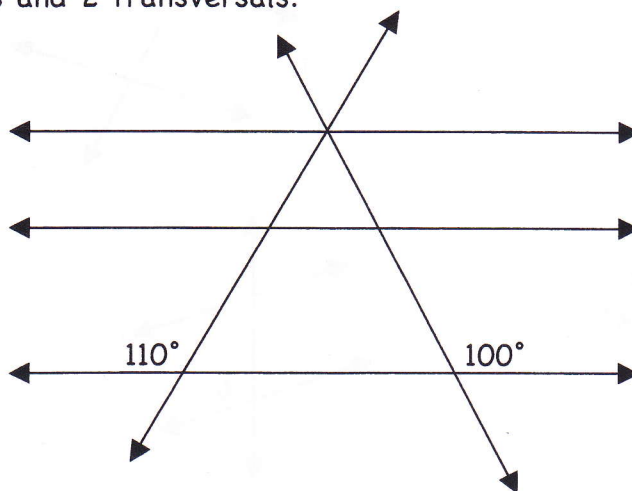
5. If $m \angle 2 = 65^\circ$, what is $m \angle 7$?

6. If $m \angle 5 = 125^\circ$, what is $m \angle 2$?

7. If $m \angle 6 = 53^\circ$, what is $m \angle 5$?

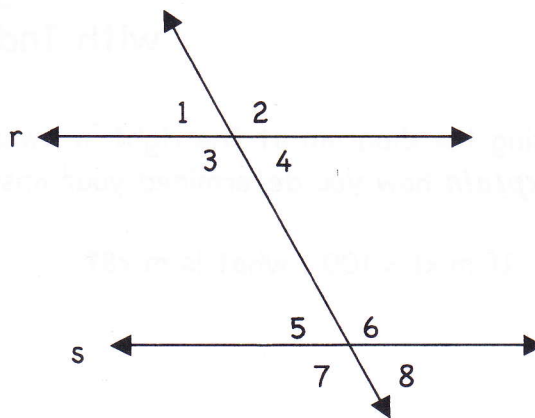
8. If $m \angle 8 = 54^\circ$, what is $m \angle 4$?

9. Find the measure of as many of these angles as you can using this diagram of 3 parallel lines and 2 transversals.



Using the diagram at the right, answer the following questions. Note: $r \parallel s$

10. Solve for r if $m \angle 1$ is $5r - 25$
and $m \angle 5$ is 75° .



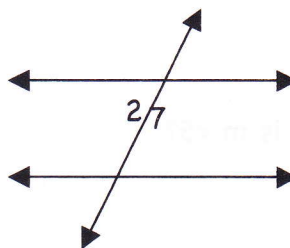
11. Solve for x if $m \angle 3$ is $\frac{1}{2}x + 40$
and $m \angle 6$ is 120° .

12. Solve for s if $m \angle 2$ is $3s + 30$
and $m \angle 8$ is 60° .

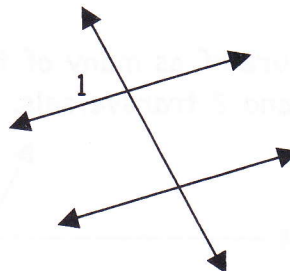
13. Solve for z if $m \angle 7$ is $2z - 12$
and $m \angle 4$ is 80° .

Solve each problem using the diagram to the right of the problem. Each diagram has a pair of parallel lines cut by a transversal.

14. If $m \angle 2 = 70^\circ$, what is $m \angle 7$?
How would you determine that?



15. If $m \angle 1 = 3x + 12$ and its adjacent angle measure is 96° , what is the value of x ?



16. If $m \angle 6 = 2x - 4$ and its corresponding angle measure is 76° , what is the value of x ?

