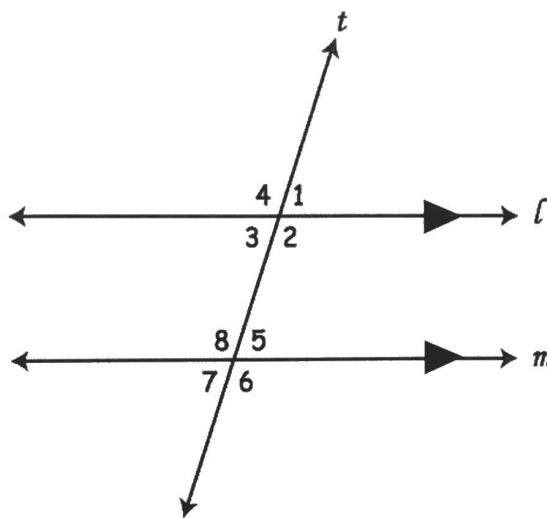


Parallel Lines and Transversals

Parallel Lines Conjecture -

parallel lines cut by
a transversal create
~~two~~ angles that
are congruent or
supplementary.



Corresponding Angles Conjecture: If 2 parallel lines are cut by a transversal, then
Corresponding angles are congruent.

Same-Side Interior Angles Conjecture:

same-side interior angles are supplementary.

Same-Side Exterior Angles Conjecture:

same-side exterior angles are supplementary

Alternate Interior Angles Conjecture:

alternate interior angles are congruent.

Alternate Exterior Angles Conjecture:

alternate exterior angles are congruent.



Examples (treat each example independently)

1) If $m\angle 1 = 58^\circ$, find $m\angle 5$. 58°
corresponding

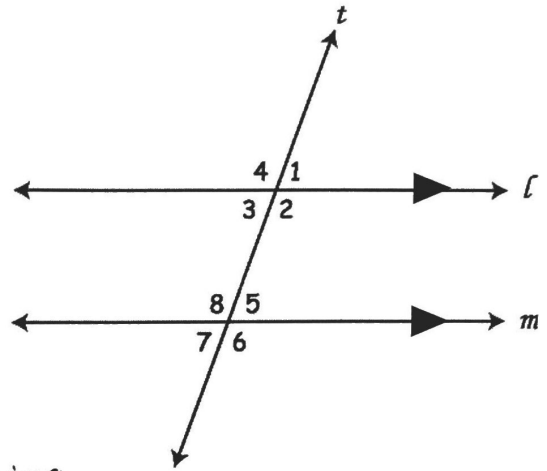
2) If $m\angle 8 = 106^\circ$, find $m\angle 2$. 106°
alternate interior

3) If $m\angle 1 = 67^\circ$, find $m\angle 6$. 113°

4) If $m\angle 1 = 3x + 7$ and $m\angle 5 = 4x - 10$, find $m\angle 1$.

$$\begin{array}{r} 3x + 7 = 4x - 10 \\ -3x \quad -3x \\ \hline 7 = x - 10 \\ \boxed{17 = x} \end{array}$$

corresponding



5) If $m\angle 1 = 47^\circ$, find the measures of all other angles.

$m\angle 2 = \underline{133^\circ}$

$m\angle 6 = \underline{133^\circ}$

$m\angle 3 = \underline{47^\circ}$

$m\angle 7 = \underline{47^\circ}$

$m\angle 4 = \underline{133^\circ}$

$m\angle 8 = \underline{133^\circ}$

$m\angle 5 = \underline{47^\circ}$