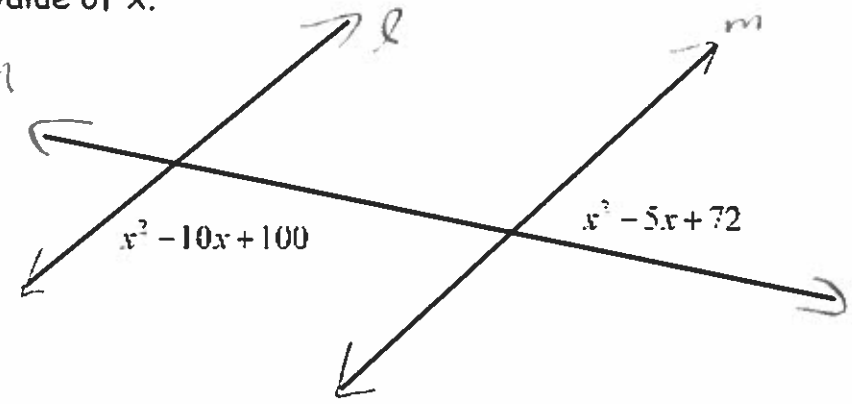
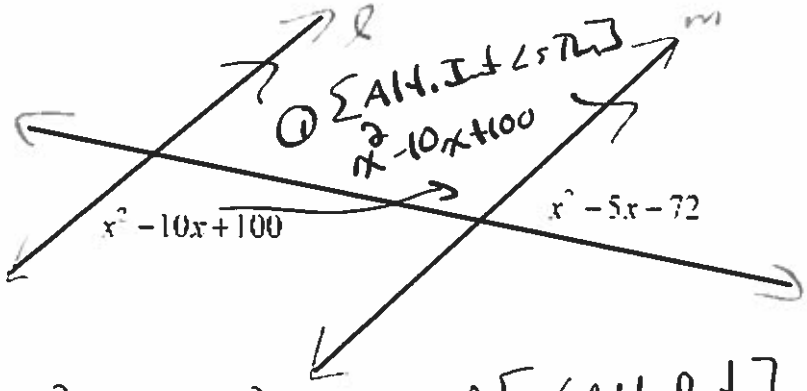
Geometry: Please clear your desk except for...

1. Assignment #22
2. Worksheet - Theorems about Parallel Lines Part I
3. Find the value of x.

Given: $\ell \parallel m$





② $x^2-10x+100+x^2-5x+72=180^\circ$ [∠ Add. Post.]

$2x^2-15x-8=0$

$(2x^2-16x)+(x-8)=0$

$2x(x-8)+1(x-8)=0$

$(x-8)(2x+1)=0$

$x=-\frac{1}{2}, 8$

$x(-16)\,|\,+(-15)$

$(1)(-16)$ ✓

③ $x=-\frac{1}{2}$

$\frac{1}{4}+5+100$

$105\frac{1}{4}^\circ$

$\frac{1}{4}+2\frac{1}{2}+72$ ✓

$74\frac{3}{4}^\circ$

$x=8$

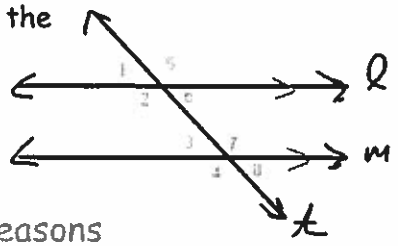
$64-80+100$

84°

$64-40+72$

96° ✓

If two parallel lines are cut by a transversal, then the pairs of alternate exterior angles are congruent.

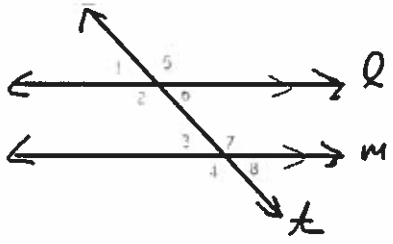


Given: $\ell \parallel m$

Prove: $\angle 1 \cong \angle 8$, $\angle 5 \cong \angle 4$

	Statements	Reasons
1	$\ell \parallel m$	Given
2	$\angle 5 \cong \angle 7$, $\angle 6 \cong \angle 8$	Corr. $\angle$s Post.
3	$\angle 7 \cong \angle 4$, $\angle 6 \cong \angle 1$	Vert. $\angle$s Thm.
4	$\angle 5 \cong \angle 4$, $\angle 1 \cong \angle 8$	Trans. Prop. of $\cong$
5		

If two parallel lines are cut by a transversal, then the pairs of same-side exterior angles are supplementary.



Given: $\ell \parallel m$

Prove: $\angle 1$ is supp. to $\angle 4$,
$\angle 5$ is supp. to $\angle 8$

	Statements	Reasons
1	$\ell \parallel m$	Given
2	$\angle 1$ is supp. to $\angle 5$ $\angle 4$ is supp. to $\angle 8$	$\angle$ Add. Post.
3	$\angle 5 \cong \angle 4$, $\angle 1 \cong \angle 8$	Alt. Ext. $\angle$s Thm
4	$\angle 1$ is supp. to $\angle 5$ $\angle 5$ is supp. to $\angle 8$	$\cong$ Supp. Converse
5		