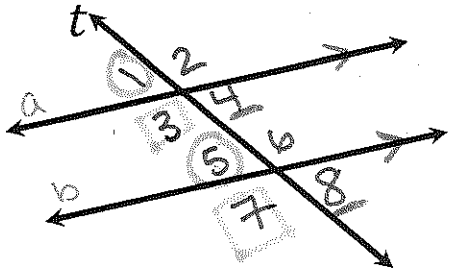
corresponding angles



Same side of t

Both above

or below lines

Ex. $m\angle 1 = 30°$

$m\angle 5 = 25 + x$

$30 = 25 + x$

$-25 \quad -25$

$5 = x$

$m\angle 1 = 60°$

$m\angle 5 = 60°$

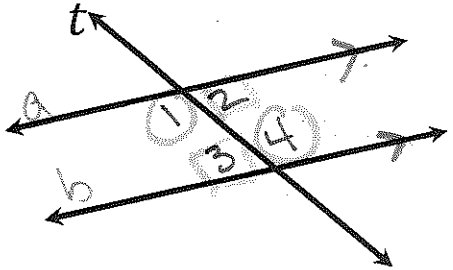
So a || b

∠parallel

Postulate: If ||, then corr. ∠s ≅

Converse: If corr ∠s ≅, then ||

alternate interior angles



opposite sides of t, and inside lines

Ex. $m\angle 1 = 2x$

$m\angle 4 = 50°$

$\frac{2x}{2} = \frac{50}{2}$

$x = 25$

$m\angle 2 = 70°$

$m\angle 3 = 2x + 8$

Find value of x that makes a || b

$70 = 2x + 8$

$-8 \quad -8$

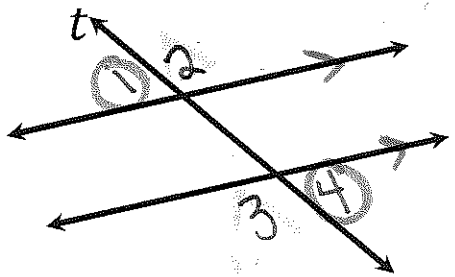
$\frac{62}{2} = \frac{2x}{2}$

$x = 31$

Theorem: If ||, then alt. int. ∠s ≅

Converse: If alt. int ∠s ≅, then ||

alternate exterior angles



opposite side of t and outside lines

Ex. $m\angle 2 = 60°$

$m\angle 3 = 2x + 4$

$m\angle 2 = 130°$

$m\angle 3 = 130°$

$\frac{60 = 2x + 4}{-4 \quad -4}$

$\frac{56}{2} = \frac{2x}{2}$

$x = 28$

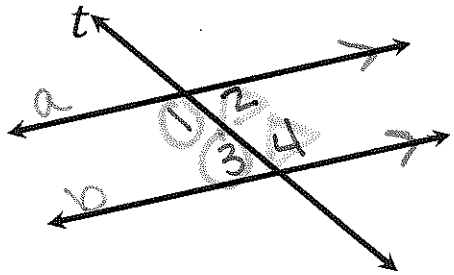
Theorem:

If ll, then alt. ext. $\angle$s $\cong$

Converse:

If alt. ext. $\angle$s $\cong$, then ll

consecutive interior angles



Same side of inside lines

Ex. $m\angle 1 = 50°$

$m\angle 3 = ?$

$180 - 50 = 130°$

$m\angle 1 = 120°$

$m\angle 3 = 2x + 15$

Find the value of x that makes a ll b

Theorem:

If ll, then cons. int. $\angle$s are supplementary (180°)

Converse:

If cons. int. $\angle$s are supplementary, then ll