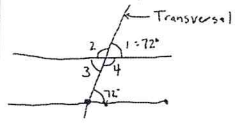
LESSON Digits 11-1/11-2

4/8/2019

Goal: I will be able to **determine the angles in parallel lines, and prove lines are parallel.**

Tool Box (Formulas, Equations, Vocabulary, etc.)

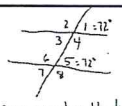
Here's How Notes & Examples



Vertical Angles

$\angle 1 = 72°$ $\quad \angle 2 = 180 - 72 = 108°$

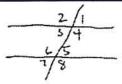
$\angle 3 = 72°$ $\quad \angle 4 = 108°$



Corresponding Angles are angles that are on the same side of the transversal in "corresponding" positions

$\angle 1 = \angle 5$ $\quad \angle 2 = \angle 6$

$\angle 4 = \angle 8$ $\quad \angle 3 = \angle 7$

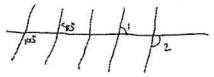


Alternate Interior Angles The inside angles that are opposite to each other

$\angle 3 = \angle 5$

$\angle 4 = \angle 6$

Example 1 Stripes in a parking lot

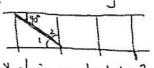


What is angle 1 & angle 2?

$\angle 1 = 80°$

$\angle 2 = 100$ Corresponding angles

Example 2 You are building a fence



What is angle 1 & 2?

$\angle 1 = 40°$ alternate interior angle

$\angle 2 = 90° - 40 = 50°$

$\parallel$ symbol means parallel

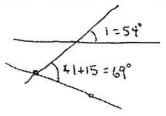
So, $m \parallel n$ means line m is parallel to line n

Proving Parallel Lines

1) If corresponding angles are congruent (equal), then the lines are parallel

2) If alternate interior angles are congruent, then the lines are parallel.

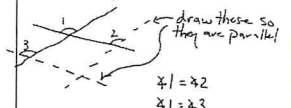
Example 3



Since the corresponding angles are NOT congruent, the lines are not parallel

Try

Draw 2 intersecting lines. How can you make parallel lines to your 2 lines?



$\angle 1 = \angle 2$

$\angle 1 = \angle 3$