

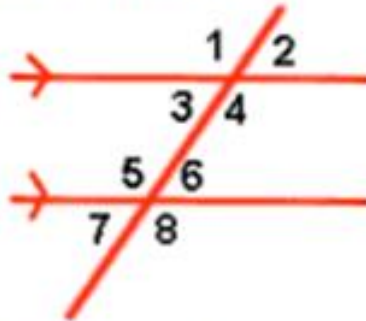
# Unit 10 Notebook

Spring 2014

A word cloud of logic-related terms on a black background. The words are arranged in a roughly triangular shape, with 'true' at the top and 'false' at the bottom. The words are in various colors: yellow, orange, teal, and red. The words include: converse, negating, true, statement, written, therefore, conclusion, hypothesis, follows, conditional, denial, switching, and false.

# Review of Parallel Lines

**Parallels:** If lines are parallel ...



**Corresponding angles** are equal.

$$m\angle 1 = m\angle 5, m\angle 2 = m\angle 6, m\angle 3 = m\angle 7, m\angle 4 = m\angle 8$$

**Alternate Interior angles** are equal.

$$m\angle 3 = m\angle 6, m\angle 4 = m\angle 5$$

**Alternate Exterior angles** are equal.

$$m\angle 1 = m\angle 8, m\angle 2 = m\angle 7$$

**Same side interior angles** are supp.

$$m\angle 3 + m\angle 5 = 180, m\angle 4 + m\angle 6 = 180$$

# Review of Coordinate Geometry

## Coordinate Geometry Formulas:

Distance Formula:

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

Midpoint Formula:

$$(x, y) = \left( \frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

## Slopes and Equations:

$$m = \frac{\textit{vertical change}}{\textit{horizontal change}} = \frac{y_2 - y_1}{x_2 - x_1}$$

$y = mx + b$  slope-intercept

$y - y_1 = m(x - x_1)$  point-slope

# Symmetry

- A figure has **line symmetry** if there is a line that divides the figure into mirror images.
- A figure has **rotational symmetry** if it looks the same when rotated some angle measure less than 360 degrees. Its **order of rotational symmetry** is the number of positions a figure can be rotated, without changing the way it looks. It has  $n^\circ$  rotational symmetry (for example  $90^\circ$  rotational symmetry) if it looks the same when rotated  $n^\circ$ .
- A figure has **point symmetry** if it looks the same upside-down, or rotated 180 degrees.

# Homework for Unit 10

- HW Set 10.1: Problems 1-19
- HW Set 10.2: Problems 20-39
- HW Set 10.3: Problems 40-67
- HW Set 10.4: Problems 68-83