

Agenda/Objective/Notes PAPPC 8/25/08

- Today's agenda
 - 1st Day Activities
 - Today's Objective
 - Today's Assignment
- 1st Days Activities: Course Syllabus, Class Expectations, Address Concerns, Answer Questions
- Today's Objectives: You will be able to
 - Use the distance and midpoint formulas
 - Sketch graphs of equations including circles
 - Write equations of lines
- Today's Assignment
 - 10/26, 37, 43, 48, 70, 72
 - 22/12, 16, 19, 28, 31, 60, 64, 74
- Formulas/Notes/Examples
 - Pythagorean Formula: $a^2 + b^2 = c^2$
 - Distance Formula: $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$
 - Midpoint of a Line Segment: $\text{Midpoint} = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$
 - Graphical Tests for Symmetry
 - A graph is **symmetric with respect to the x-axis**, if whenever (x, y) is on the graph, $(x, -y)$ is on the graph.
 - A graph is **symmetric with respect to the y-axis**, if whenever (x, y) is on the graph, $(-x, y)$ is on the graph.
 - A graph is **symmetric with respect to the origin**, if whenever (x, y) is on the graph, $(-x, -y)$ is on the graph.
 - Algebraic Tests for Symmetry
 - A graph is **symmetric with respect to the x-axis**, if replacing y with $-y$ yields an equivalent equation.
 - A graph is **symmetric with respect to the y-axis**, if replacing x with $-x$ yields an equivalent equation.
 - A graph is **symmetric with respect to the origin**, if x with $-x$ and y with $-y$ yields an equivalent equation.
 - Standard Form of the Equation of a Circle
 - The point (x, y) lies on the circle of **radius r** and **center (h, k)** iff
$$(x - h)^2 + (y - k)^2 = r^2$$

You are responsible for reading sections 1.1 and 1.2. You will be given questions that are not presented in these notes.