

**MA 241**

**Homework #2**

Due Thursday, September 9, in class

Read Chapter 3 *Shapes and Designs*. Be sure you know all of the definitions and vocabulary. Answer the following questions from this book.

1. p. 77, #8. Justify your answer.
2. p. 77, #9. Justify your answer.
3. p. 77, #11 and #13. Justify your answers.
4. p. 78, #19–22. Justify your answers.
5. p. 84, #40. Justify your answers.
6. p. 85, #43. Justify your answers.
7. Prove this theorem that you started proving in class: If  $x$  and  $y$  are a pair of consecutive interior angles in a transversal of parallel lines, then  $x$  and  $y$  are supplementary.
8. Prove this theorem that you started proving in class: If  $x$  and  $y$  are a pair of alternate exterior angles in a transversal of lines  $\ell$  and  $m$ , and  $x = y$ , then  $\ell$  is parallel to  $m$ .