New Concepts

Problem Set #27

"The measure of our intellectual capacity is the capacity to feel less and less satisfied with our answers to better and better problems."

- C.W. Churchmann

New Postulates and Theorems

- Theorem 37 – If both pairs of opposite sides of a quadrilateral are congruent, then the quadrilateral is a parallelogram.
- Theorem 38 – If one pair of opposite sides of a quadrilateral are both congruent and parallel, then the quadrilateral is a parallelogram.
- Theorem 39 – If both pairs of opposite angles of a quadrilateral are congruent, then the quadrilateral is a parallelogram.
- Theorem 40 – If the diagonals of a quadrilateral bisect each other, then the quadrilateral is a parallelogram.

Exercises:

p.174 #10,13,15,17,19-23

Problems:

27-1 Quadrilateral Constructions part II

Using a compass and straightedge, construct a scalene triangle with vertices at A, B and C.

Now, using the points A, B and C, construct parallelogram ABCD. (remember – order matters. You may need to think first where point D must be located)

Construct parallelogram ABEC .

Construct parallelogram AFBC.

What do you notice about ΔDEF ?