

New Concepts

Problem Set #32

“Besides language and music, mathematics is one of the primary manifestations of the free creative power of the human mind.”

- Hermann Weyl

New Postulates and Theorems

Theorem 53 – The measure of an exterior angle of a triangle is greater than the measure of either remote interior angle.

Exercises:

p.206 #1-13odd

Problems:

32-1 Quadriscribing a rhombus

Using a compass and straight edge, construct rhombus ABCD with one angle twice as large as the other angle.

Now construct any larger quadrilateral EFGH around rhombus ABCD such that A, B, C and D lie on \overline{EF} , \overline{FG} , \overline{GH} and \overline{HE} respectively.

What must be true about quadrilateral EFGH?

(it may help to consider the properties of the quadrilateral – opposite sides, consecutive sides, opposite angles, consecutive angles or how the diagonals interact)