

New Concepts

- Legs
- Base
- Vertex Angle

Problem Set #21

“A mind is a fire to be kindled, not a vessel to be filled.”

- Plutarch

New Postulates and Theorems

- Theorem 26 – If two sides of a triangle are congruent, then the angles opposite those sides are congruent.

Corollary – An equilateral triangle is also equiangular

Corollary – An equilateral triangle has three 60° angles.

Corollary – The bisector of the vertex angle of an isosceles triangle is perpendicular to the base at its midpoint

- Theorem 27 – If two angles of a triangle are congruent, then the sides opposite those angles are congruent.

Exercises:

p.137 #1-9, 12, 14-17, 22-25

Problems:

A • • B

21-1 Polygon Constructions

- (a) (the easier) Using a compass and straightedge, construct the a segment of length $\frac{3\sqrt{3}}{4} \cdot AB$.
- (b) (the medium) Using a compass and straightedge, construct two triangles with the same perimeter, but with different areas.
- (c) (the harder) Using a compass and straightedge, construct two triangles with the same area, but with different perimeter.