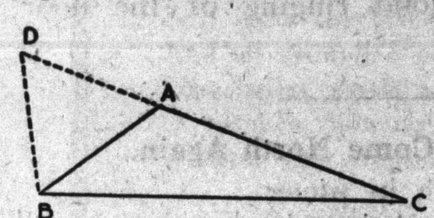
instruments required for the pupil are described on page 69 of the text-book, and can be obtained for from 25 to 75 cents. A set for blackboard work, consisting of graduated ruler, compasses and protractor, can be purchased for a few dollars, but in this era of manual training can, doubtless, be readily improvised.

In beginning any subject, the teacher's motto should be: "*Festina lente*," "Hasten slowly;" but this is especially appropriate in Geometry. Before taking up a proposition, the preceding work must not only be swallowed, but chewed and digested.

However, as an ounce of illustration is worth a pound of generalization, and as my object is to be of some assistance to the younger teachers in presenting the subject, I shall proceed to illustrate my method by teaching a theorem and a problem.

As an example of the former, take theorem 11. First, ask your pupils to draw triangles of all the various shapes given previously; then ask them to measure any two of the sides and compare the sum of their length with the third side. If you think it necessary to illustrate further, ask them to draw triangles of the following dimensions. (1) $a = 5$ cm., $b = 3$ cm., $c = 8$ cm.; (2) $a = 7$ cm., $b = 4$ cm., $c = 2$ cm.; (3) $a = 6$ cm., $b = 5$ cm., $c = 4$ cm.

Your pupils will now be able to write the general enunciation: Any two sides of a triangle are together greater than the third side.



Now, all the pupils in their books, and the teacher on the board, draw a triangle ABC

Teacher: Now, what do you wish to prove?

Pupil: That AB + AC is greater than BC; or, AC + CB is greater than AB; or, AB + BC is greater than AC.

Teacher: Let us try to prove the first statement. Have you ever before proved two lines together greater than another?

Pupil: No.

Teacher: Have you, in any of the previous propositions, proved one line greater than another?

Pupil: Yes, in the last proposition, theorem 10. The side of a triangle opposite a greater angle is greater than the side opposite a less.

Teacher: Now, referring to your triangle ABC, what construction could you make so as to get one line which would be equal to the two AB and AC?

Pupil: Produce CA to D, making AD = AB.

Teacher: Any other way?

Pupil: Produce BA to D, making AD = AC. (Some pupils will probably tell you to produce AB and AC in the wrong direction; but some will tell you right. Take the right way, and afterwards investigate the other way, showing that it will not be correct.)

Teacher: Let us produce CA to D, making AD = AB. What line, then, is equal to AB and AC together?

Pupil: The line DC.

Teacher: Then we are to prove DC greater than BC by what proposition?

Pupil: By theorem 10.

Teacher: What further construction is necessary to get the triangle?

Pupil: Join D,B.

Teacher: Now, on what condition will DC be greater than BC, by theorem 10?

Pupil: If the angle DBC can be shown to be greater than the angle BDC.

Teacher: In triangle DAB, what have you by construction?

Pupil: The side DA = DB.

Teacher: What follows by theorem 5?

Pupil: That angle DBA = angle ADB.

Teacher: What angle is greater than DBA, and why?

Pupil: Angle DBC is greater than DBA; because "the whole is greater than one of its parts."

Teacher: Angle DBC is greater than what other angle and why?

Pupil: Angle DBC is greater than angle ADB, *i. e.,* angle CDB; because angle ADB = angle DBA.

Teacher: What follows by theorem 10 in triangle DBC?

Pupil: DC is greater than BC; *i. e.,* DA + AC is greater than BC; *i. e.,* AB + AC is greater than BC.

Then, in other lessons, take the other two cases in a similar way.

Again, take the following problem:

"To divide a line into two parts so that the square on one part shall be equal to twice the square on the other."

Let AB be a straight line.

Suppose P to be the required point.

Teacher: Now, what would be true if P is the required point, AP being the longer segment.

Pupil: Then AP squared = 2 PB squared.

Teacher: How could you get a straight line the