

BC = 24	B ₁ C ₁ = 36	B ₂ C ₂ = 60
AB = 30	A ₁ B ₁ = 45	A ₂ B ₂ = 75
AC = 40	A ₁ C ₁ = 60	A ₂ C ₂ = 100

And we again find that corresponding sides about equal angles are proportional, *i.e.*,

$$\frac{24}{30} = \frac{36}{45} = \frac{60}{75}$$

$$\frac{30}{40} = \frac{45}{60} = \frac{75}{100}$$

$$\frac{24}{40} = \frac{36}{60} = \frac{60}{100}$$

4. The pupil may repeat this experiment with equi-angular triangles, and, the constructions being accurately made, he will always reach the same conclusion as to the proportionality of the corresponding sides about equal angles.

(The easiest way to secure the equality of the angles is to place with the parallel rulers B₁C₁ parallel to BC, and then with the same rulers draw B₁A₁ parallel to BA, and C₁A₁ parallel to CA.)

The result of these observations may be stated thus:

The sides about the equal angles of equi-angular triangles are proportionals; and corresponding sides, *i.e.*, those which are opposite to equal angles, are the antecedents or consequents of the ratios.

(Note: In the ratio $a:b$, a is called the *antecedent*, and b the *consequent*.)

This is the most important proposition in Geometry: indeed, one of the most important results of all science. Through it, in effect, all measurements are made when we cannot actually go over the distance to be measured with a rule, a surveyor's chain, or other measuring instrument.