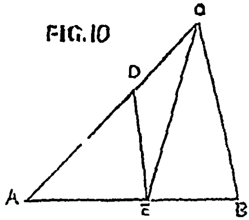
angle BCD, and if the former triangle be greater than the latter, S cannot be greater than *s*. For the difference between S and *s* is equal to the difference the sum of the angles of the triangle ACE and the sum of the angles of the triangle BED. But the former of these quantities (since the triangle ACE is greater than the triangle BED) is not greater (Cor. 1) than the latter. Therefore S is not greater than *s*.

Cor. 4.—In the case supposed in the previous Corollary, should the assumption be made that the angles of a triangle are not (see Cor. Prop. II.) equal to two right angles, S must be less than *s*. For, by the reasoning in the Proposition and in the foregoing Corollaries, it appears that the difference between S and *s* is equal to the difference between the sum of the angles of a triangle ACB (Fig. 10) and the sum of the angles of a triangle ADE inscribed within the former in the manner shown in the figure. Suppose, if possible, that S=*s*. Then the angles of the triangle ADE are together equal to those of the triangle ACB. Therefore (Cor. 1. Prop. I.) they are equal to those of the triangle ACE. Therefore angle ADE is equal to the sum of the angles DCE and DEC. Therefore the angles of the triangle DEC are together equal to two right angles: which is at variance with the hypothesis on which we are at present proceeding. Hence S is not equal to *s*. But (Cor. 3) S is not greater than *s*. Therefore S is less than *s*.

FIG. 10



Cor. 5.—If the triangle ABG (Fig. 11) be divided by the straight line AC into two parts, of which ACG is the greater, two lines AD

FIG 11