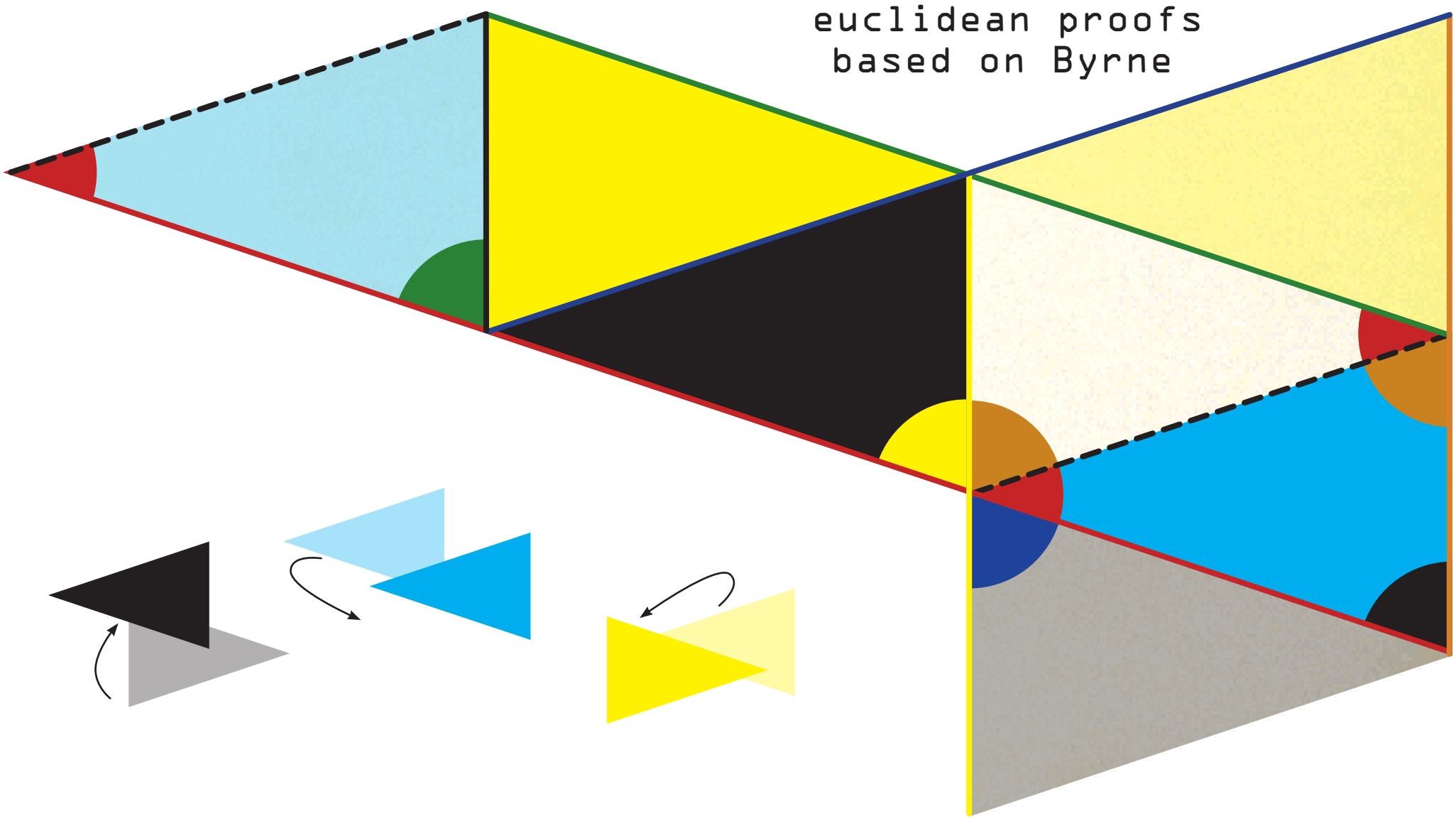
A presentation of selected euclidean proofs based on Byrne



BOOK I. PROP. VIII. THEOR.

IF *two triangles have two ſides of the one reſpectively equal to two ſides of the other* (– – – = – – –, and ——— = ———), *and alſo their baſes* (——— = ———), *equal; then the angles* (◢ *and* ◢) *contained by their equal ſides are alſo equal.*

If ◺ = ◺

Therefore the sides ——— and – – – – – – ,

being coincident with ——— and – – – – – – ,

∴ ◢ = ◢ .

Q.E.D.

BOOK I. PROP. XXX. THEOR.

STRAIGHT *lines* (═) *which are parallel to the ſame ſtraight line* (———), *are parallel to one another.*

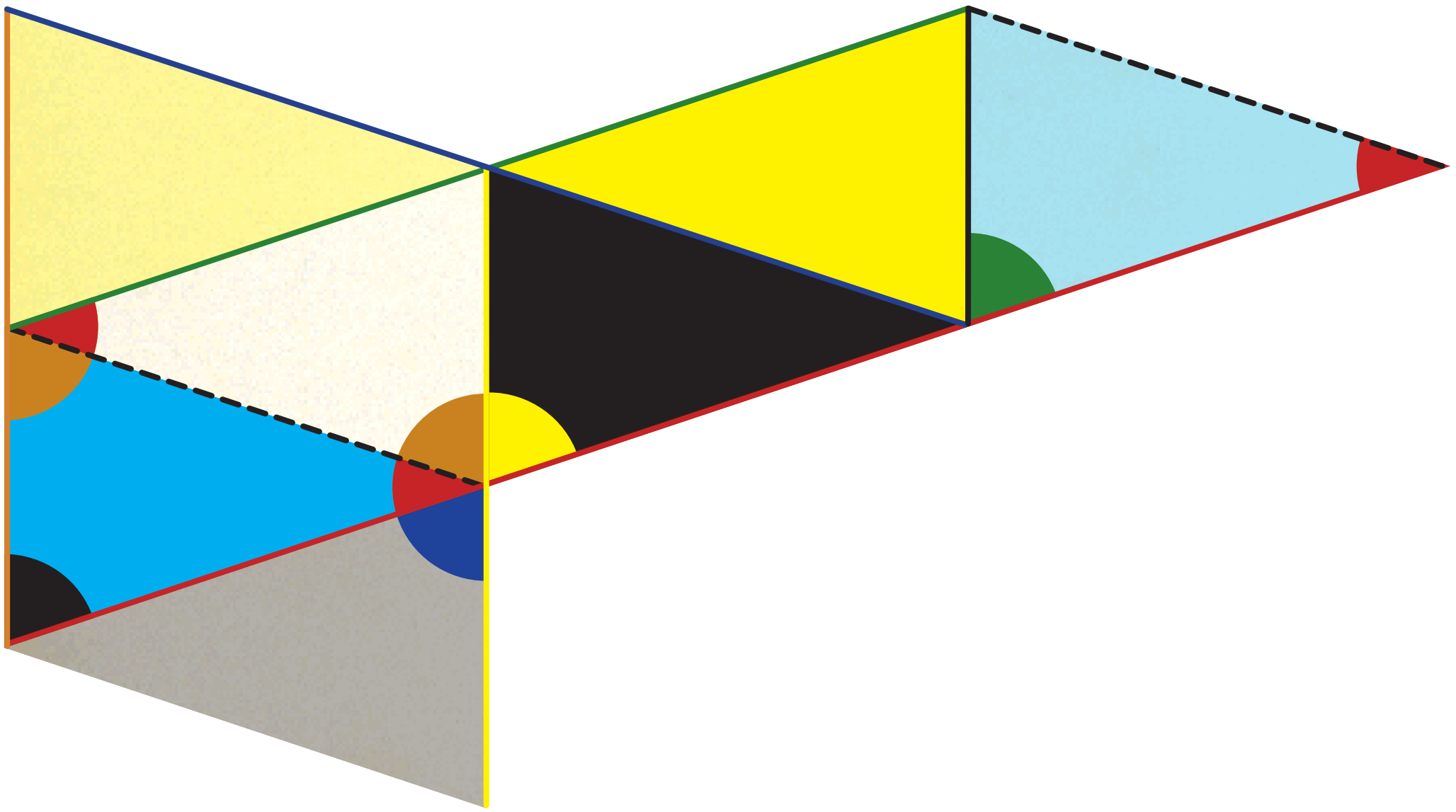
Let ——— intersect { ═ } ;

Then, ◢ = ◢ = ◢ (pr. 29.),

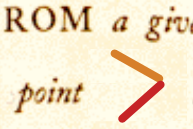
∴ ◢ = ◢

∴ ——— ‖ ——— (pr. 27.)

Q.E.D.



BOOK I. PROP. XXXI. PROB.

FROM *a given point*  *to draw a ſtraight line parallel to a given ſtraight line* ().

Draw from the point 

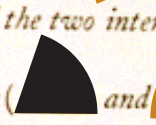
to any point  in ,

make  =  (pr. 23.),

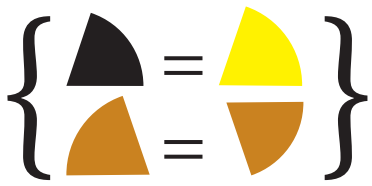
then || (pr. 27.).

Q.E.D.

BOOK I. PROP. XXXII. THEOR.

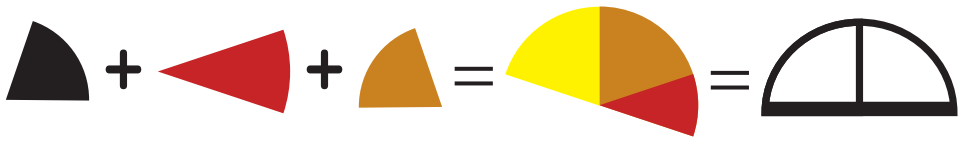
IF *any ſide* () *of a triangle be produced, the external angle* () *is equal to the ſum of the two internal and oppoſite angles* (), *and the three internal angles of every triangle taken together are equal to two right angles.*

Through the point  draw  (pr. 31.).

Then  (pr. 29.),

∴  (ax. 31.),

and therefore

 (pr. 13.).

Q.E.D.