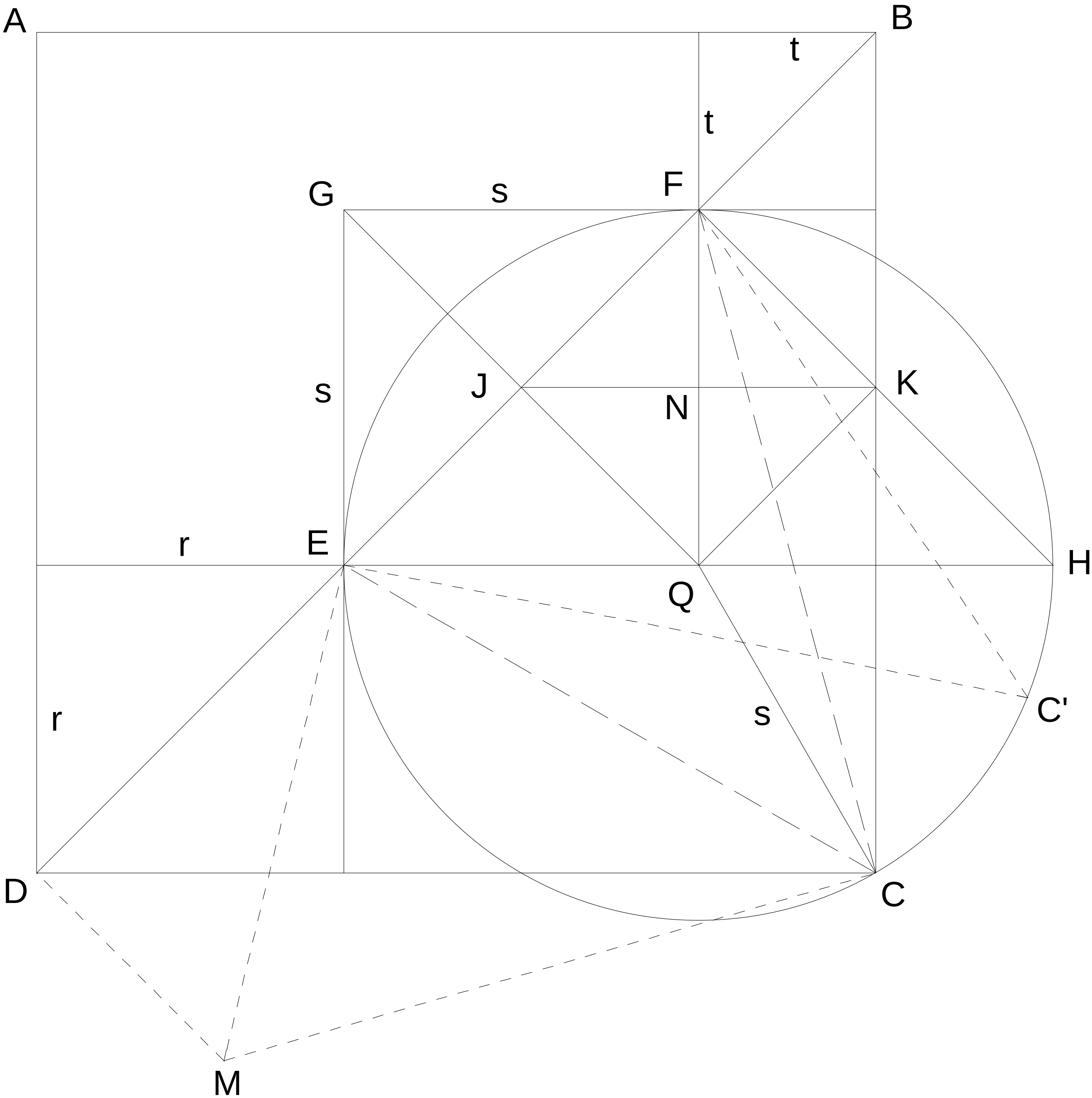
A
B
t
t
G
s
F
s
J
K
N
r
E
H
Q
C'
r
s
D
C
M

4 Squares answer

Let the sides of the inner squares be r, s, and t. Let the upper left corner of square S be G and the lower right corner be Q. Draw diagonals EF and QG to intersect at J. Draw a circle with center at Q that passes through E and F. Point C has to lie on the circle because angle EQF =90°, so QC = EQ = QF = s. (Any other point on the circle, say C', will also subtend an angle of 45° but will not be on the corner of the large square.) Extend EQ to intersect the circle at H. Draw HF to intersect BC at K. Angle EHF = 45° also because it intercepts the circular arc EF the same as ECF. JK intersects FQ at N. By symmetry, it can be seen that t = (½) s.

Next, construct triangle DMC with DM = FB = $\sqrt{2}$·t and MC = CF. Angle CDM = angle FBC = 45°. Angle CDE = 45°, so angle MDE = 90°. Angle FCB = angle MCD. Angle DCE = 90° – angle FCB – 45°. Angle ECM = 90° + angle DCM – 45°° – angle FCB = 45°. With triangles MCE and ECF being congruent, EM = EF = $\sqrt{2}$·s. With DE = $\sqrt{2}$·r, DM = $\sqrt{2} \cdot t$ and EM = $\sqrt{2}$ ·t, $s^2 = r^2 + t^2$.

By letting s = 2, t = 1 and r = $\sqrt{\boldsymbol{s}^2 - \boldsymbol{t}^2}$ **=** $\sqrt{\mathbf{2}^2 - \mathbf{1}^2}$ **=** $\sqrt{\mathbf{3}}$**.**

So, r + s + t = 4.732050808, and scaled up so r + s + t = 5280,

r = 1,932.614, s = 2,231.591 and t = 1,115.795