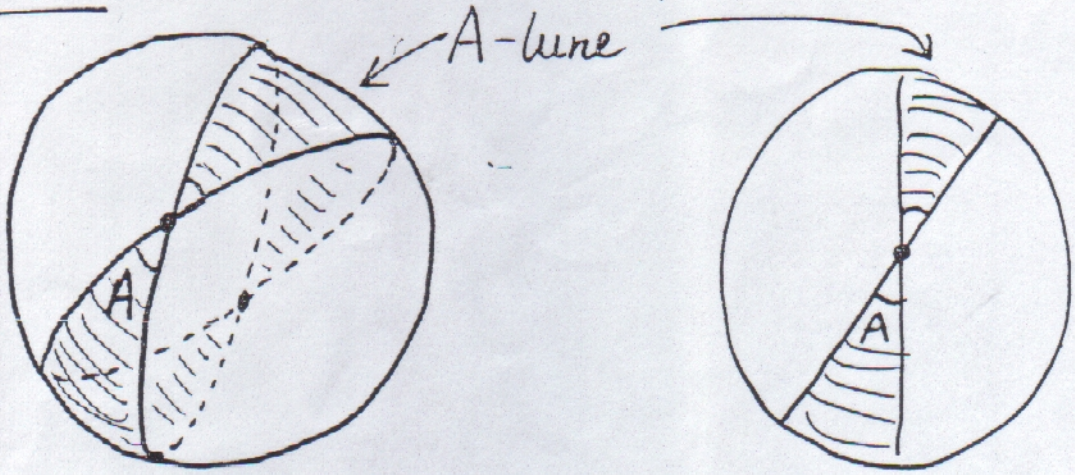
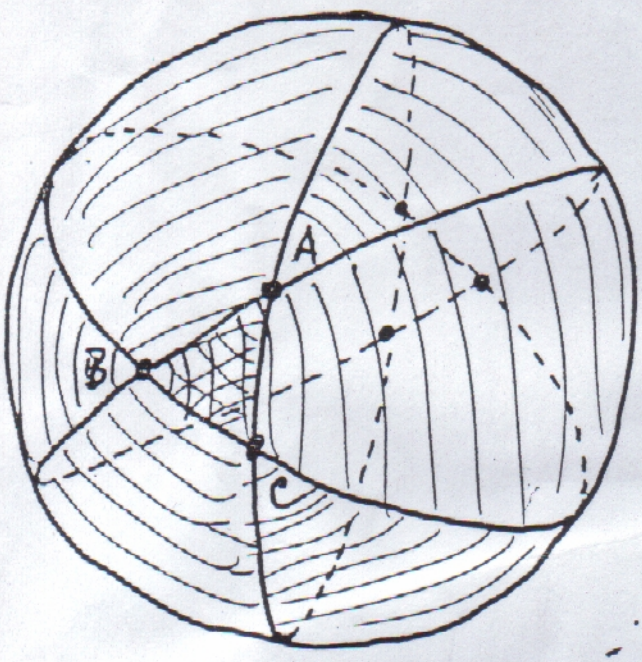
THEOREM. $A+B+C = 180\left(1+4\frac{T}{S}\right)$

PROOF



$$\frac{\text{Area of A-lune}}{S} = \frac{2A}{360} = \frac{A}{180}$$



A-lune + B-lune + C-lune = $S + 4T$

Divide by S & substitute above:

$$\frac{A}{180} + \frac{B}{180} + \frac{C}{180} = 1 + 4\frac{T}{S}$$

$$\therefore A+B+C = 180\left(1+4\frac{T}{S}\right)$$