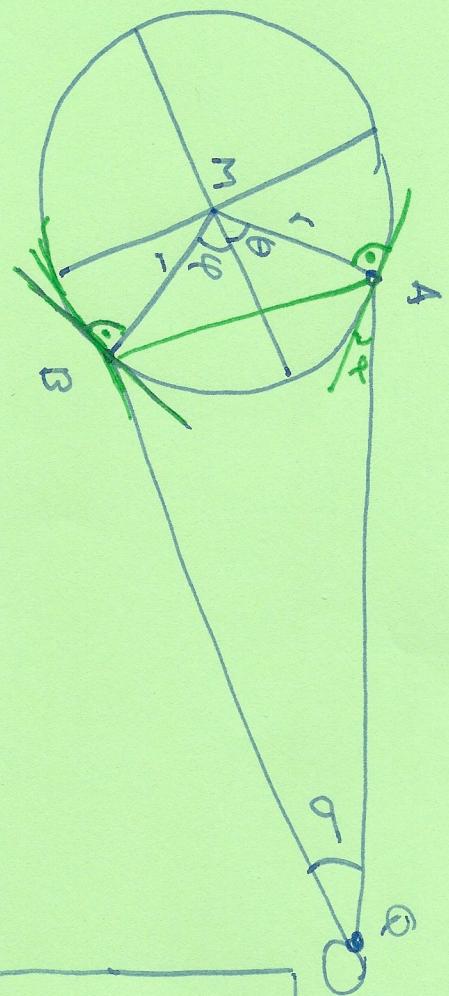


6. III

$$\alpha = 37,782^\circ \quad \beta = 39,826^\circ$$

$$Q = 37,126^\circ \quad \varphi = 63,783^\circ$$



①

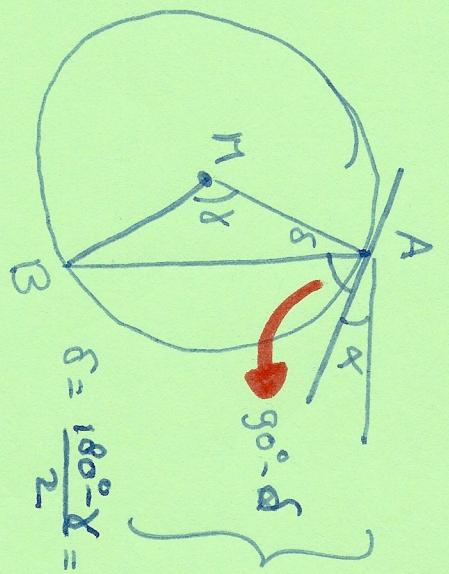
$\triangle AMB$

$r = \theta + \varphi$
 $r = 6370 \text{ km}$

$$AB^2 = r^2 + r^2 - 2 \cdot r \cdot r \cdot \cos \sigma$$

$$\Rightarrow AB = 9824 \text{ km}$$

Kosinussatz



A

B

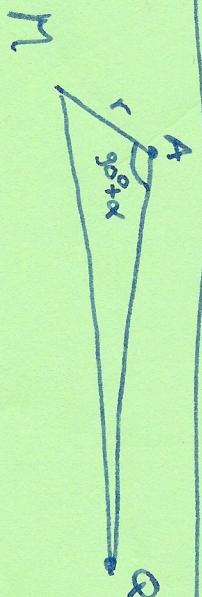
$\epsilon_A = 90^\circ + \alpha - \delta = 88,236^\circ$

$\epsilon_B = 90^\circ + \beta - \delta = 90,280^\circ$

$\sigma = 1,484^\circ$

$$\frac{AQ}{\sin \epsilon_B} = \frac{AB}{\sin \sigma} \Rightarrow AQ = AB \cdot \frac{\sin \epsilon_B}{\sin \sigma} = 379.333 \text{ km}$$

③



$$MQ^2 = r^2 + AQ^2 - 2 \cdot r \cdot AQ \cdot \cos(90^\circ + \alpha)$$

$$= 1,439 \cdot 10^6 + 2,96 \cdot 10^9$$

$$MQ = 383223 \text{ km}$$