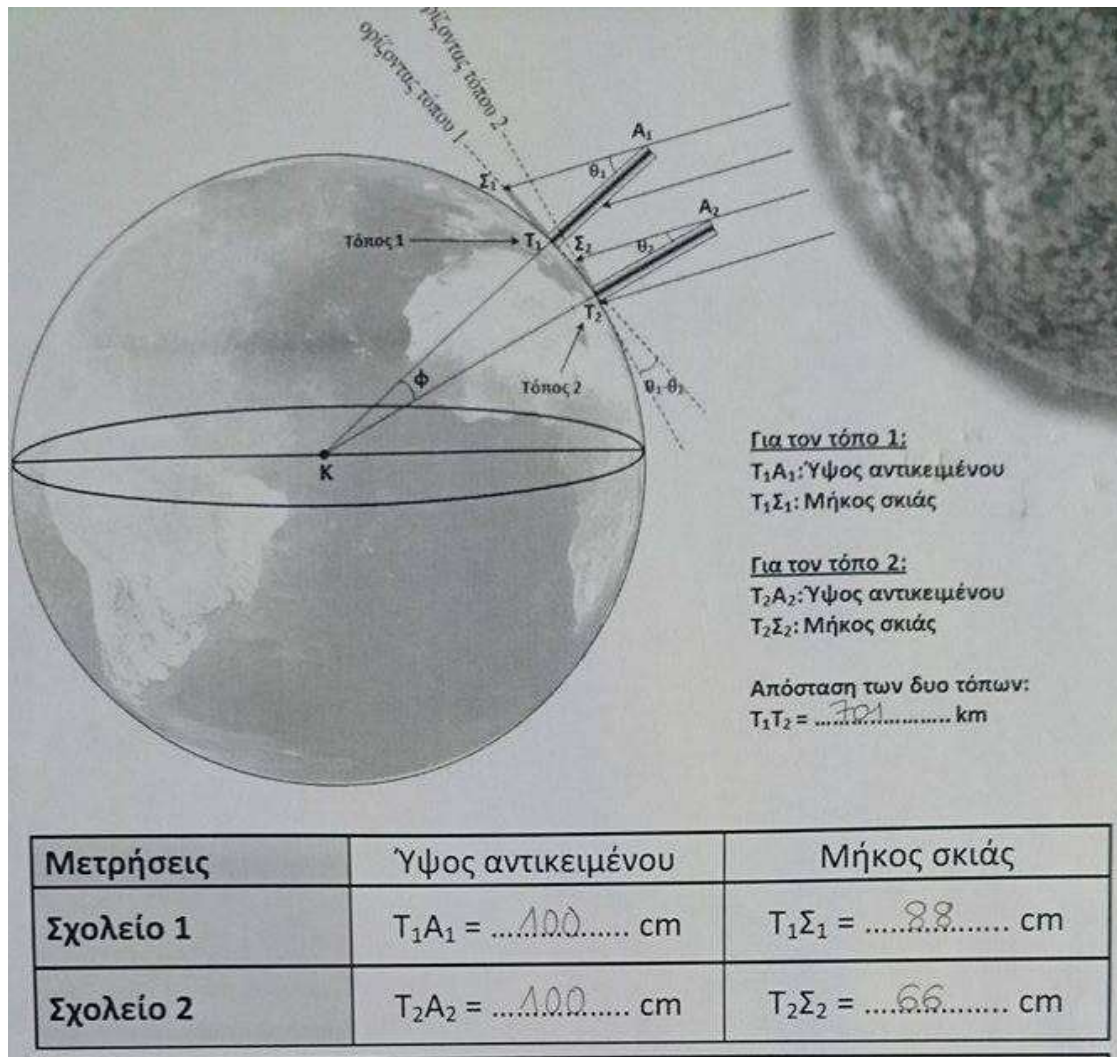**Task 4**

The results of the Eratosthenes experiment implemented in Palekastro (Town T2) and Didimotichon (Town T1), Greece, on the 21st of March 2016 at solar noon are summarized below:

Για τον τόπο 1:
T_1A_1: Ύψος αντικειμένου
$T_1\Sigma_1$: Μήκος σκιάς

Για τον τόπο 2:
T_2A_2: Ύψος αντικειμένου
$T_2\Sigma_2$: Μήκος σκιάς

Απόσταση των δυο τόπων:
$T_1T_2 = $ ....701........... km

Μετρήσεις	Ύψος αντικειμένου	Μήκος σκιάς
Σχολείο 1	$T_1A_1 = $ ...100...... cm	$T_1\Sigma_1 = $ ....88...... cm
Σχολείο 2	$T_2A_2 = $ ...100..... cm	$T_2\Sigma_2 = $ ....66........ cm

The length of the ruler was 100 cm. The shortest shadow in Didimotichon was 88cm and in Palekastro it was 66 cm.

1. Calculate the angles θ_1 and θ_2.
2. Deduce the angle ϕ of the central angular sector as shown on the picture.
3. Given that the distance between the two cities is 701 km, deduce the circumference of the Earth with those data.