

P11. Modern space technology allows us to know that the earth circumference is about 40,030 km. Around 240 BC on a summer solstice, Eratosthenes, head of the library at Alexandria, measured the circumference of the earth using only as a stick!

Eratosthenes at Alexandria had a friend at Aswan, which located 800km away. Each of both put a stick on a ground and observed a shadow casting by the stick at noon, when the shadow appeared shortest. Note: summer solstice is the day with the longest daylight in a year.



What they found was that at noon, in Aswan, whose location was near the equator, Eratosthenes's friend did not see the shadow. While, in Alexandria, Eratosthenes could see the shadow, whose angle was measured to be 7.2 degree. Given that Aswan is 800km away from Alexandria, 7.2 degree corresponds to 800km. Therefore, full circle around the earth makes up 360 degree would correspond to how many kms?

Write a program to take in an angle of the stick shadow in Alexandria and a distance between Alexandria and Aswan (in km) and print out the calculated earth circumference.

The program takes the shadow angle in degree and the distance in km, respectively. It reports the estimated earth circumference in km.

*Hint: circumference = 360 * distance / angle.*

Example

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Angle (degree): 7.2

Distance (km): 801

Eratosthenes: "the earth circumference is about 40,050.0 km."
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Measure the Earth with a Stick

Use

P11_template.py.
(The template is only to allow smooth autograding.)

