In the mid 20th century we began launching satellites into space that would help us determine the exact circumference of the earth forty thousand thirty kilometers but over two thousand years earlier in ancient _____ a man arrived at nearly that exact same figure by putting a stick in the ground that man was _____ a Greek mathematician in the head of the Library of _____ Eratosthenes had heard that in Syene a city to the south of Alexandria no vertical shadows were cast at noon on the summer solstice the Sun was directly overhead he wondered if this were also true in Alexandria so on June 21st he planted a stick vertically in the ground and waited to see if a shadow would be cast at noon it turns out there was one and it measured about seven degrees now if the sun's rays are coming in at the same angle at the same time of day and a stick in Alexandria is casting a shadow while a stick in Syene is not it must mean that the Earth's surface is curved and Eratosthenes probably already knew that the idea of a spherical earth was floated by _____ around 500 BC and validated by Aristotle a couple centuries later if the earth really was a sphere

Eratosthenes could use his observations

to estimate the circumference of the

entire planet since the difference in

_____ length is seven degrees between

Alexandria and Syene that means the two

cities are seven degrees apart on

earth's 360 degree surface

Eratosthenes hired a man to pace the

distance between the two cities and

learn there were 5000 stadia apart which

is about 800 kilometers he could then

use simple proportions to find the

Earth's circumference 7.2 degrees is one

fiftieth of 360 degrees so 800

kilometers times 50 equals _____

kilometers and just like that a man

2,200 years ago found the circumference

of the entire planet with just a stick

and his brain

you