## Introduction

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| |  | | --- | | problem **0** | | **Ring World** | | y points | |  |
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In his science fiction novel Ring World, Larry Niven described an enormous artificially constructed ring orbiting a star. The ring's radius was about 95 million miles and it was nearly 1 million miles wide. The side that faced inward was covered with land and seas and was surrounded by walls 1,000 miles high to retain the atmosphere. The supposed purpose of such a structure was to provide a habitable region with thousands or even millions of times more surface area than an Earth-sized planet.

Write a program to compute the inner surface area of a Ring World and print the result relative to the surface area of the Earth. To do this you will need to know a few simple facts:

* the surface area of the Earth is 196.935 million square miles
* the surface area of a ring is 2∙π∙r∙w, where r is the ring’s radius and w is the ring’s width
* the value of π is about 3.14159265

# Sample Input

The input will consist of two real-number values. The first is the radius of the ring world, and the second is its width. Both values are given in miles. You might want to use a double data type to ensure your program doesn't lose any precision during calculations.

*Example 1*

95000000 997000

*Example 2*

92955887.6 131072

# Sample Output

The program must print the inner surface area of the ring world relative to the surface area of the Earth. The value must be truncated to an integer value, accurate within +/- 1, followed by the word EARTHS. As you can see below, the ring world in the first example (which is the one described in the novel) would have a little over three million times the surface area of the Earth.

*Example 1*

3021869 EARTHS

*Example 2*

388726 EARTHS