

Math Diversion 1057

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You don't understand anything until you
learn it more than one way.
— Marvin Minsky

Source: <https://www.youtube.com/watch?v=YRi6NTW4TZM>
Title: Cambridge Maths Entrance Exam
Presenter: Math Beast

1 Problem

Given the relation

$$\phi = i^{1/i}, \tag{1}$$

solve for real values of ϕ .

2 Solution

Since $i = e^{i\pi/2}$

$$\phi = (e^{i\pi/2})^{1/i} = e^{\pi/2}. \tag{2}$$

In approximate form,

$$\phi \approx 4.8105. \tag{3}$$