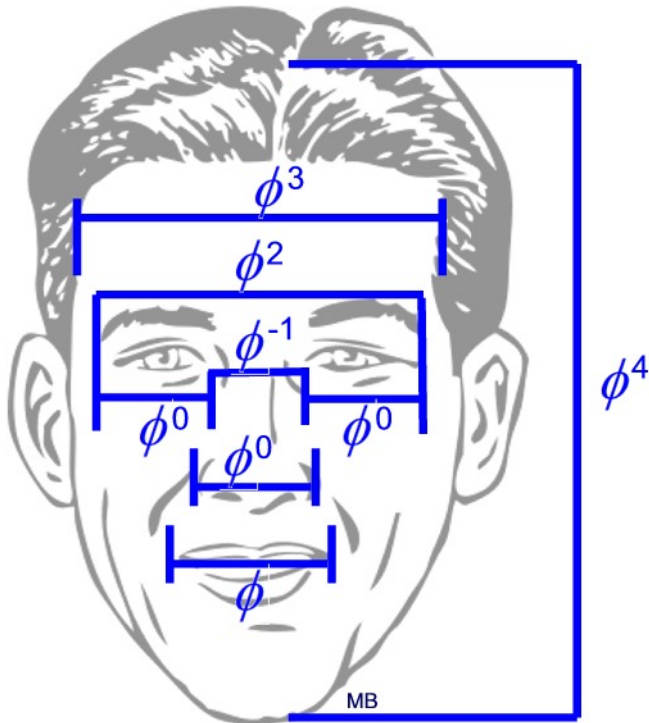


Fibonacci Faces LAB

The Beautiful People

Name _____



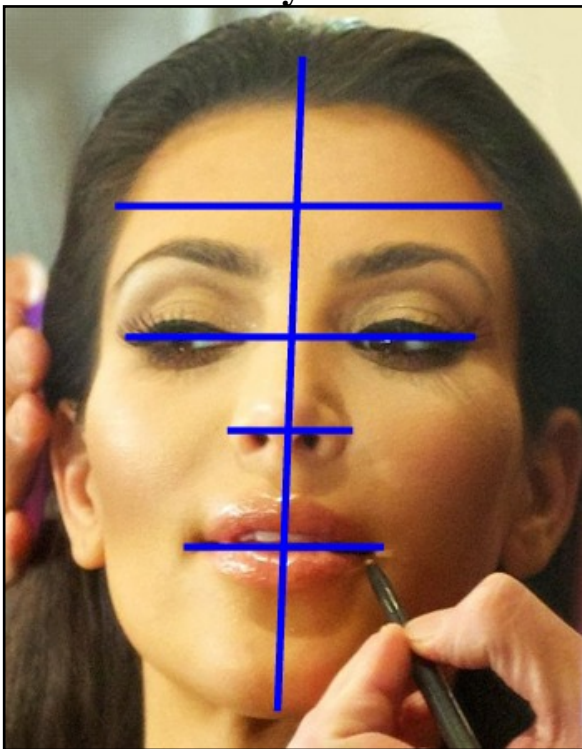
Need to know: Phi (ϕ) = 1.618033989.

Using this Fibonacci representation of the human head, analyze the following celebrities photos to determine if their facial features, in this photo, conform to the “ideal, beautiful” dimensions.

The example below will show measurements taken in **millimeters**. Each investigation should start with the width of the nose, which is ϕ^0 , or 1. Proportions will be used for the investigation.

Please draw your measurement lines on the photos when examining the faces, as shown in the example.

I. Partial Analysis for Kim:



Example: Starting with the nose, determine the ideal dimension for the mouth:

$$\frac{\text{nose}}{\text{mouth}} = \frac{\phi^0}{\phi} = \frac{1}{1.618033989}$$

$$\frac{1}{1.618033989} = \frac{\text{Model's measured nose}}{\text{Model's ideal mouth}}$$

The model’s measured nose from the photo is approximately 16 mm.

$$\frac{1}{1.618033989} = \frac{16}{x}$$

After solving for x , Kim’s ideal mouth would measure 25.88854382 mm. Upon measuring the photo, her mouth measures 25 mm. A perfect proportion exists between her mouth and nose in this photo.

Now, let’s examine how the rest of her face in this photo measures up. →

Prepare proportions to examine other sections of Kim’s face in a manner similar to the example. Please show your work. **Start with the nose in each situation.**

a.) Eye width corresponding to ϕ^2 : ideal width _____ actual width _____

Show work here: $\frac{\text{nose}}{\text{eye}} = \frac{\phi^0}{\phi^2} = \frac{1}{2.61803399} =$

b.) Head width corresponding to ϕ^3 : ideal width _____ actual width _____

Show work here:

c.) Head height corresponding to ϕ^4 : ideal height _____ actual height _____

Show work here:

Are Kim’s facial measurements in keeping with the Fibonacci dimensions of an “ideal” face? Explain your findings. _____

II. Partial Analysis for Hugh:



Draw the necessary measurement lines on the face. Complete an analysis of the facial features as indicated below. Start with the nose measurement in each case. Please show all work including proportions used.

a.) Find the measured width of the nose: _____

Find the mouth corresponding to ϕ :
ideal width _____ actual width _____

Show work here:

b.) Eye width corresponding to ϕ^2 : ideal width _____ actual width _____
Show work here:

c.) Head width corresponding to ϕ^3 : ideal width _____ actual width _____
Show work here:

d.) Head height corresponding to ϕ^4 : ideal height _____ actual height _____
Show work here:

Are Hugh's facial measurements in keeping with the Fibonacci dimensions of an "ideal" face?
Explain your findings. _____

III. Extra Credit

Include a photo of your favorite celebrity (or yourself), with a total analysis of the seven facial dimensions shown in the Fibonacci representation of an "ideal, beautiful" human head. Please use the nose as your point of reference, as in the example, and show ALL work.