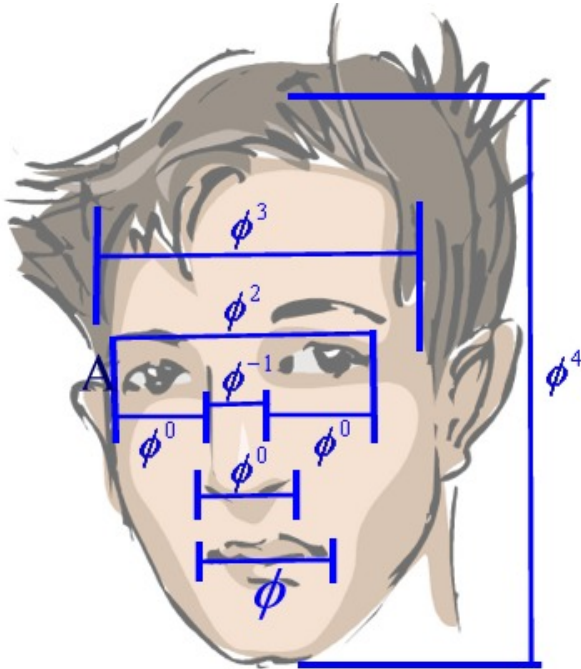


# Fibonacci Faces LAB

The Beautiful People

Name \_\_\_\_\_



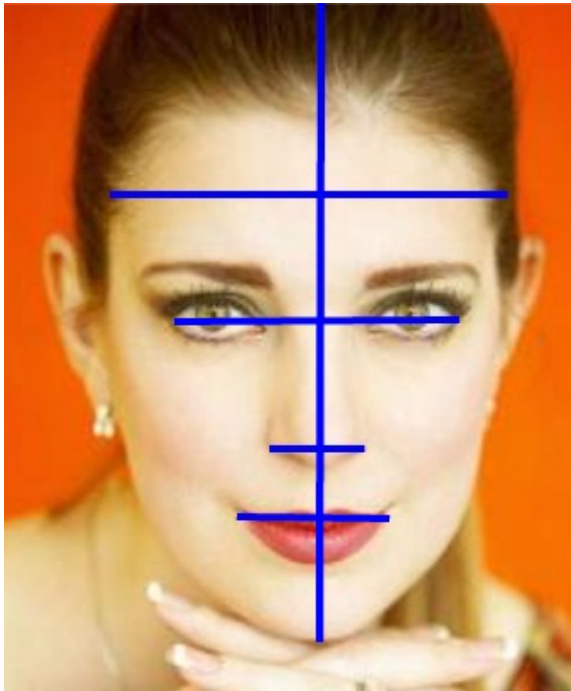
Need to know: Phi ( $\phi$ ) = 1.618033989.

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  $\phi^0$ , 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 of our Model:



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 12 mm.

$$\frac{1}{1.618033989} = \frac{12}{x}$$

After solving for x, the model’s ideal mouth would measure 19.416406 mm. Upon measuring the photo, her mouth measures 19 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 the model'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  $\phi^2$ : 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  $\phi^3$ : ideal width \_\_\_\_\_ actual width \_\_\_\_\_

*Show work here:*

c.) Head height corresponding to  $\phi^4$ : ideal height \_\_\_\_\_ actual height \_\_\_\_\_

*Show work here:*

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

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## II. Partial Analysis of Leonardo DiCaprio:



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  $\phi$ :  
ideal width \_\_\_\_\_ actual width \_\_\_\_\_

*Show work here:*

b.) Eye width corresponding to  $\phi^2$ : ideal width \_\_\_\_\_ actual width \_\_\_\_\_  
*Show work here:*

c.) Head width corresponding to  $\phi^3$ : ideal width \_\_\_\_\_ actual width \_\_\_\_\_  
*Show work here:*

d.) Head height corresponding to  $\phi^4$ : ideal height \_\_\_\_\_ actual height \_\_\_\_\_  
*Show work here:*

Are Leo'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.