



## Summer Math Video Logs

*Watch the 4 videos posted on Google Classroom. Complete the Video Log as you watch or after the video is over. These logs will be collected on Friday September 13th along with your project option. You will need to submit paper (not digital) versions so please make arrangements in advance as I will not be able to print them for you. Handwritten logs are completely acceptable as long as they follow the format given.*

# Video Log #1

## Why is 1.618 So Important

*Use the information in the video to answer the following questions.*

- 1) Complete the Fibonacci sequence:  
0, 1, 1, —, —, —, —, —, —, —, —, —, —
- 2) Who discovered the sequence before Fibonacci?
- 3) What Greek letter is associated with the Golden Ratio?
- 4) What is it called?
- 5) Between which 2 digits of the sequence is the value  
1.617977528...
- 6) Name 3 examples of the golden ratio in architecture?
- 7) Name 3 composers who used golden ratio in their musical compositions.
- 8) Name 3 examples of the golden ratio in nature.



### Take Away:

- 1) What did you find most interesting & why?
- 2) Do you have any specific question or confusion related to this topic?

## Video Log #2

### Sequences 3: Fibonacci

*Use the information in the video to answer the following questions.*

- 1) Sketch 6 generations of the family tree of the male honey bee. The video shows only 5. Use the  symbol for male, and the  symbol for female.

- 2) How many bees would be found in the 12th generation? How can you figure it out without drawing the tree?

## Video Log #3

### Fibonacci Tutorial

*Use the information in the video to answer the following questions.*

- 1) What materials will you need to construct a Golden Spiral?
  
- 2) Sketch and label the process shown on the video. You do not need to  
use a ruler or compass for this part

- 3) What are the 4 ways noted in the video to enhance the basic design.

\_\_\_\_\_ , \_\_\_\_\_

\_\_\_\_\_ , \_\_\_\_\_

## Video Log #4

### Mathematics of Beauty-The Golden Ratio

*Use the information in the video to answer the following questions.*

1) The ratio found in nature, specifically the human body & face is about 1 to \_\_\_\_\_.

2) What other 2 shapes are found in the face \_\_\_\_\_ and \_\_\_\_\_.

3) Use the video as well as research to find 10 celebrities known for having a "golden face".

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

4) Give 3 ratios given in the video known to have a golden relationship. For example, Distance from floor to navel : Distance from navel to head.

_____	:	_____
_____	:	_____
_____	:	_____



## Summer Math Project Options

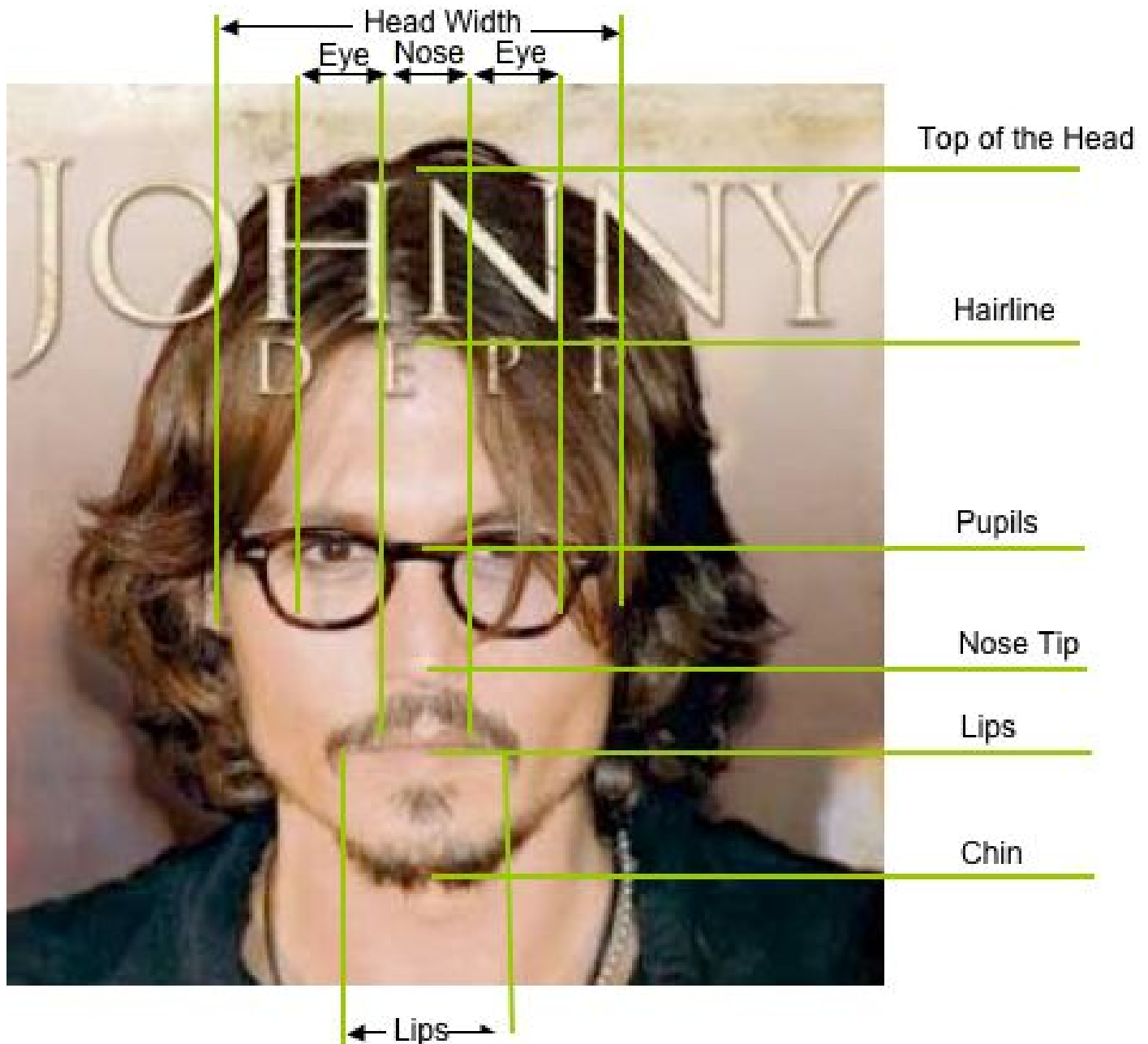
*After watching the 4 videos posted on Google Classroom. You will be able to choose from the 2 options detailed below. The completed project will be collected on Friday September 7th along with your video logs. You will need to submit paper (not digital) versions so please make arrangements in advance as I will not be able to print them for you. If you would like extra credit, you will have the ability to complete the other option in class.*

# Option #1

## How Golden is Your Face?

Use the example of Johnny Depp below to help you collect the measures of a celebrity of your choice or of your own face. Your picture needs to be a full page in size. (8.5 x 11) When collecting your measurements please use centimeters;) Do not write on your picture as they will be displayed. You will need to submit the picture as well as the Perfect Face page with all of your data. You CAN use a calculator!

You will be graded on accuracy so be careful when measuring!



## ④ The Perfect Face

Find a face from a magazine – choose a large sized picture so it will be easier to measure. ATTACH YOUR PICTURE. Find the following measurements, to the nearest tenth of a centimeter:

- |                               |  |                           |
|-------------------------------|--|---------------------------|
| a. Top-of-head to chin _____  | e. Width of nose _____                 | i. Nose-tip to chin _____ |
| b. Top-of-head to pupil _____ | f. Outside distance between eyes _____ | j. Lips to chin _____     |
| c. Pupil to nosetip _____     | g. Width of head _____                 | k. Length of lips _____   |
| d. Pupil to lip _____         | h. Hairline to pupil _____             | l. Nose-tip to lips _____ |

Now, find the following ratios:

- |             |             |             |
|-------------|-------------|-------------|
| a/g = _____ | i/c = _____ | k/e = _____ |
| b/d = _____ | e/l = _____ |             |
| i/j = _____ | f/h = _____ |             |

### The Final Score:

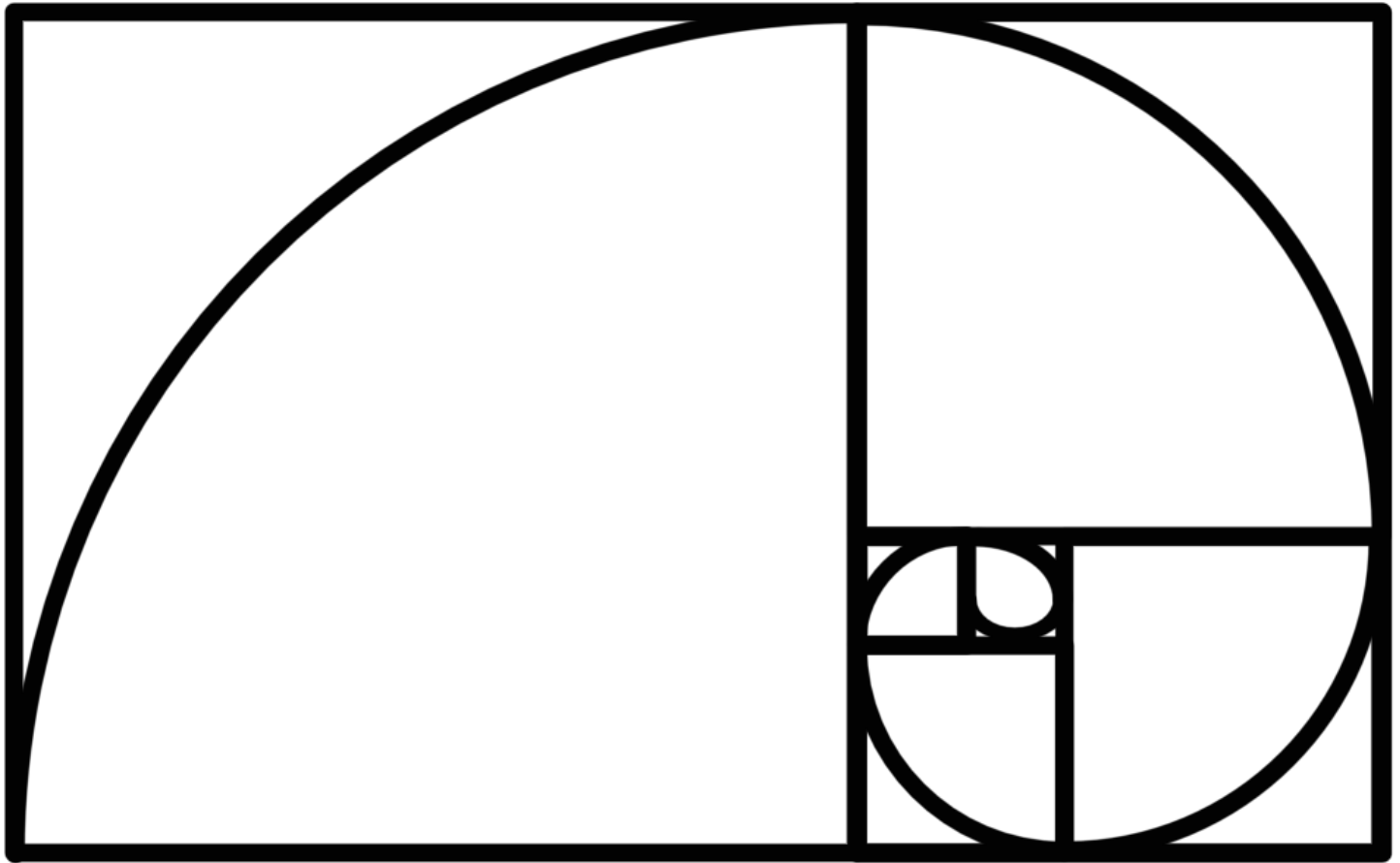
Find the average of the 7 ratios you found in the last step. Write it as a decimal rounded to the nearest hundredth.

---



## Option #2

### The Golden Spiral



**Use what you learned from the video, create a golden spiral. You will need the supplies listed at the beginning of the tutorial. After you have created the spiral you will need to choose at least 2 of the enhancements given to make your finished product extra special.**

**You will be turning in all of the papers you used to create your finished produce ( for example tracing paper, cut outs...)You will be graded on accuracy so be sure to use the proper materials properly.**