Donald in Mathmagic Land Video Handout

Name __________________________ Date ______________ Per. __________

PREVIEW QUESTIONS

1. What is your first thought when you hear the word “math”? Do you think math is fun? Did you ever see anything in math that surprised you?

2. Do you ever use math to solve everyday problems? How?

3. Who was Pythagoras? Who do you suppose the Pythagoreans were? Can you name any other mathematicians?

4. Can you name some ways that math is present in nature? In architecture or art? In sports or games?

VIEWING QUESTIONS

1. According to the movie, MathMagic Land is the land of great ________________.

2. The “master egghead” is ____________________________, the father of mathematics and music.

3. A musical octave has a ratio of _________________.

4. The Pythagoreans used what secret emblem? ____________________________

5. To the Greeks, the Golden Rectangle represented a “mathematical law of __________________________.”
Donald in Mathmagic Land Video Handout

6. Name five places you can find the golden ratio. Your answers can be in architecture, art, or nature.
   a.
   b.
   c.
   d.
   e.

7. Lewis Carroll wrote the book ________________________________, in which Alice is a pawn on a chessboard.

8. Name three different games or sports mentioned in the movie that are played on geometrical areas.
   a.
   b.
   c.

9. In 3 cushion billiards, the cue ball must hit 2 ____________ and 3 ____________.

10. The method used in billiards is called ____________ the ________________.

11. Describe the condition of Donald’s mind:

12. Name three objects we can make from slicing a sphere or a cone.
    a.
    b.
    c.

13. Where is it that we conceive of infinity? ________________

14. Why would some of the doors at the end of the movie not open?

15. What was the key to opening these doors?

16. Galileo said, “________________ is the ______________________ with which God has written the universe.”
Donald in Mathmagic Land Video Handout

POST-VIEWING QUESTIONS

1. Pythagoras was a Greek mathematician. What are some of the mathematical contributions he made?

2. What is a Golden Rectangle? Why is it important in architecture and art? Look around you right now. Do you see anything that looks like a Golden Rectangle in your classroom?

3. Pythagoras wrote, “Everything is arranged according to number and mathematical shape.” What do you think he meant by this? Do you agree with him? Why or why not?

4. What are some ways that math is a part of your daily life? What about the lives of the people in your community? The government?

5. Can you suggest some ways that math is present in nature?

6. The video refers to a number of games that rely on geometric or other math principles in order to be played. What were some of these games and how is math used in them? What other games do you know of that use math principles in some way?

7. The video spans three millennia and shows mathematical achievements from ancient to modern times. What are some inventions that exist today that weren’t shown in the video? Name some ways that math is used in these achievements.