Exploring the World of Math

Name: _____   Date: _____

Test 1 – Fibonnaci Sequences and the Golden Ratio

1. Write a Fibonacci sequence from 1 to 610

F_1	F_2	F_3	F_4	F_5	F_6	F_7	F_8	F_9	F_{10}	F_{11}	F_{12}	F_{13}	F_{14}	F_{15}

2. Compute the following using data provided:

F_{25}	F_{26}	F_{27}	F_{28}
	121393	196418	

   a. Calculate the value of F_{28}

   b. Calculate the value of F_{25}

3. Compute the following:
   a. $F_5 + 10$
   b. F_{5+10}
   c. $F_{50/10}$
   d. $F_2 + F_4 + F_6$
   e. $F_{12} \div F_3$

4. Compute the following:
   a. phi
   b. $1 \div phi$
   c. Phi^4
   d. $Phi^5 / \sqrt{5}$
   e. $Phi^6 / \sqrt{5}$

5. What is the Fibonacci number F_{380}?

6. Roger is working on a cage design and decides to use the golden ratio as a guide. If the width (long side) is 40 inches, what should the height be?

7. Miranda measures the distance of the cat's face as 136.5 cm. She measures the height of the cats face as 84.4. Is the cat's face proportioned similar to the golden ratio? Show the math.

8. Draw a rectangle that has the proportion of the Golden Ratio with the long side of six.

9. Draw a Fibonacci spiral 1, 1, 2 ,3, 5

10. Name five natural objects that display the Fibonacci sequence or the Golden Ratio.