

**“The Proof” Video Questions**

( 5 points)

Name \_\_\_\_\_

Period: \_\_\_\_\_

1. What month did he have an incredible revelation?
2. Who worked 7 years in secrecy?
3. Who’s “Last Theorem” did he find when he was 10 years old?
4. What did this 17<sup>th</sup> century mathematician do professionally?
5. What ancient Greek text was he studying?
6. What does Pythagoras’ Theorem state?
7. What are whole number solutions to Pythagoras’ Theorem?
8. What does “*Demonstrationem mirabilem sane duos hanc marginis exiguitas non caperet*” mean?
9. Was it called his “Last Theorem” because it was the last theorem he did?
10. Can computers help prove Fermat’s Last Theorem?
11. What is mathematics about?
12. Is Fermat’s Last Theorem useful?
13. Who was Andrew Wiles’ advisor?
14. Are elliptic curves the same thing as ellipses?
15. What do their solutions look like?
16. Where does Goro Shimura presently work?
17. What kind of mistakes did Yutaka Taniyama make?
18. Is it easy to make this kind of mistake?
19. Where does Nick Katz work?
20. Eichler said there are 5 fundamental operations of arithmetic, including Modular functions. What are the other four?

21. "Every elliptical curve is a modular form in disguise" came to be known as the "Taniyama-Shimura \_\_\_\_\_."
22. Ken Ribet works at what university?
23. In the 1980's, what German mathematician made the connection between elliptical curves and Fermat's Last Theorem?
24. Who proved the Epsilon Conjecture?
25. Where does John Coates work?
26. Did Wiles have any competition proving the Taniyama-Shimura Conjecture?
27. Wiles attempted to count elliptic curves by counting what kind of representations?
28. Did Iwasawa Theory help to find a Class number Formula?
29. Using Flach & Kolyvagin's Class number Formula forced Wiles to ask for help from what expert?
30. Where does John Conway work?
31. What did they do to secretly work of Fermat's last Theorem?
32. Who else did he tell?
33. To attack the last few families of elliptic curves, Wiles switched from using the prime 3 to what other prime?
34. What is the name of Andrew Wile's wife?
35. What was the name of the lecture he gave at Cambridge?
36. Who do you think spread the rumor that he was going to prove Fermat's Last Theorem?
37. What is the name of the process of making sure the manuscript is correct?
38. Where was the problem?
39. When was this difficulty found?
40. Was he able to fix the proof before his wife's birthday?
41. What was the date that he got the insight of his life?
42. What was the key to solving the Class Number Formula?
43. Is Andrew Wiles' proof the same as Fermat's?
44. Wiles' proof used the work of what other mathematicians?