*For all of the following problems, the answer choice "NOTA" denotes "None of the Above", meaning the correct answer is not one of the choices provided. Good luck!*

1. Which of the following mathematicians attempted suicide by jumping in front of a train?
   a. Srinivasa Ramanujan
   b. Alan Turing
   c. Kurt Gödel
   d. Paul Erdös
   e. NOTA

2. Prior to the formal introduction of calculus, a few mathematicians had begun to create methods for finding tangent lines to curves. Which of the following mathematicians, who was the teacher of Isaac Newton, created a method which involved what he referred to as *la galande* and *quadratrix*?
   a. Pierre de Fermat
   b. René Descartes
   c. Isaac Barrow
   d. Edmund Halley
   e. NOTA

3. What book introduced the Hindu numerals (0-9) to Europe, and in what century was it written?
   a. *Hisab Al-Jabr wal Mugabalah*, 8th century
   b. *Liber Abaci*, 16th century
   c. *Hisab Al-Jabr wal Mugabalah*, 12th century
   d. *Liber Abaci*, 13th century
   e. NOTA

4. Which of the following mathematicians received a special silver plaque from the International Mathematics Union instead of a Fields Medal because he did not meet the age requirement of being under 40 (hint: this mathematician was born in 1953 but had made his stunning discovery in 1994)
   a. Grigori Perelmen
   b. Paul T. Bateman
   c. Andrew Wiles
   d. Elon Lindenstrauss
   e. NOTA

5. Along with Carl Friedrich Gauss, which of the following mathematicians is considered to be the father of differential geometry?
   a. David Hilbert
   b. Leonhard Euler
   c. Joseph Fourier
   d. André Weil
   e. NOTA

6. Bertrand Russell's many notable endeavors included the desire to axiomatize all of mathematics, with the utmost certainty and rigor. Who proved this to be impossible with a finite number of axioms?
   a. Kurt Gödel
   b. David Hilbert
   c. Alfred North Whitehead
   d. G.H. Hardy
   e. NOTA

7.  What is the name of the process, named for a member of Napoleon's expedition to Egypt, which allows modern amplification systems to create waves of sound by a combination of other, simpler, waves?
    a. Newton's Process                     b. Fourier Transform
    c. Rosetta Amplification                 d. Hall's Algorithm
    e. NOTA

8.  Which of the following civilizations had a symbol for 0 (note that in this culture it was more of a numerical placeholder than a true concept for 0)?
    a. American                              b. Roman
    c. Greek                                 d. Babylonian
    e. NOTA

9.  Who wrote the first rigorous book on conics in 1522, which detailed the potential cross sections of the cone and the relationships they had with one another?
    a. Johannes Werner                       b. René Descartes
    c. Christoff Rudolff                      d. Gerolamo Cardano
    e. NOTA

10. Considered one of the founders of modern algebra, and specifically group theory and ring theory, Évariste Galois met an unfortunate death by duel. It has since been hypothesized that he may have been set up by a conspiracy due to his radical political ideas. What was the name of the woman whose honor he was defending in said duel?
    a. Emily                                 b. Francis
    c. Stephanie                             d. Mary
    e. NOTA

11. Aside from the Sieve which takes his name, Eratosthenes was most famous for what other act?
    a. Squaring the Circle                   b. Estimating pi to 352 digits
    c. Discovering the concave lens          d. Estimating the circumference of Earth
    e. NOTA

12. Which of the following mathematicians was most responsible for the work of the pseudonym "Nicolas Bourbaki", an extremely prolific fake mathematician who was the product of a group effort of many French mathematicians.
    a. André Weil                            b. David Hilbert
    c. Sophie Germain                        d. Bourbaki was not a pseudonym
    e. NOTA

13. Which of the following is the correct expression for a Mersenne Prime?
    a. $2^{2^n} + 1$                         b. $2^n - 1$
    c. $2p + 1$                              d. $2p + 2$
    e. NOTA

14. A classic story from the depths of mathematical history involves a grade school Carl Friedrich Gauss astounding his elementary school teacher by quickly performing a task that ought to have been difficult enough to occupy hours of his time. Which formula did he reportedly derive at this early age?
    a. The prime factorization of a number
    b. The sum of an arithemetic sequence
    c. The sum of the first $n$ odd numbers
    d. The number of primes less than $n$
    e. NOTA

15. To whom did Gauss write the following statement in a letter regarding the discovery of non-Euclidean geometry? "To praise it would amount to praising myself. For the entire content of the work, the approach which your son has taken, and the results to which he is led, coincide almost exactly with my own meditations and which have occupied my mind for the past thirty of thirty five years"
    a. János Bolyai
    b. Bernhard Riemann
    c. Nikolai Lobachevsky
    d. Farkas Bolyai
    e. NOTA

16. Which of the following individuals first recorded a proof, restricted to countable covers, of the Heine-Borel Theorem (which states that the following two statements are equivalent: $S$ is closed and bounded, $S$ is compact)
    a. Émile Borel
    b. Eduard Heine
    c. Karl Weierstrass
    d. Peter Dirichlet
    e. NOTA

17. Which of the following Egyptian mathematical papers outlines the method for finding the volume of a frustum?
    a. Plimpton 322
    b. Rhind Papyrus
    c. Moscow Papyrus
    d. The Berlin Papyrus
    e. NOTA

18. Which of the following methods of proof can be attributed to Pierre de Fermat?
    a. Proof by interpretation
    b. The method of infinite descent
    c. Proof by contradiction
    d. Induction
    e. NOTA

19. Upon realizing he had published an incorrect result regarding the orbits of three bodies around one another, Henri Poincaré agreed to do which of the following?
    a. Apologize publicly
    b. Stand before a court of law
    c. Work until his error was shown to be right
    d. Fund the original printing of the mistake
    e. NOTA

20. To whom is the function $\phi(x)$ attributed, denoting the number of numbers less than or equal to $x$ which are relatively prime to $x$?
    a. Leonhard Euler
    b. Isaac Newton
    c. Blaise Pascal
    d. Alan Turing
    e. NOTA

21. Which mathematician will be forever engrained in the history books for publishing a book which is considered the first calculus textbook? It should be noted that its contents were, in fact, the work of Johann Bernoulli.
    a. Jacob Bernoulli
    b. Isaac Newton
    c. Pierre de Fermat
    d. Guillame L'Hopital
    e. NOTA

22. The function $d(x) = \begin{cases} 1, & x \in \mathbb{Q}; \\ 0, & x \in \mathbb{R} - \mathbb{Q}. \end{cases}$ is named for whom?
    a. Niels Abel
    b. Évariste Galois
    c. Augustin-Louis Cauchy
    d. Adrien-Marie Legendre
    e. NOTA

23. Which of the following was NOT one of Zeno's paradoxes of motion?
    a. The Dichotomy
    b. Achilles and the Tortoise
    c. The Great Rivalry
    d. The Arrow
    e. NOTA

24. What is the title of Anaxagoras of Clazomenae's most notable work?
    a. *On Conic Sections*
    b. *On the Depth of Bodies of Water*
    c. *On Nature*
    d. *On the Sphere*
    e. NOTA

25. What group provides funding for the Millenium Problems, each with a one million dollar reward?
    a. Clay Mathematics Institute
    b. The Institute for Advanced Study
    c. Andrew Beal
    d. The Newton Society
    e. NOTA

26. Who was the first mathematician to state the Fundamental Theorem of Algebra?
    a. Carl Friedrich Gauss
    b. Albert Girard
    c. Isaac Newton
    d. Bhaskara
    e. NOTA

27. Ronald Graham once bet this mathematician $500 that the mathematician could not go one month without taking amphetamines (Graham lost this bet).
    a. Frank Plumpton Ramsey               b. Pafnuty Chebyshev
    c. Paul Erdös                          d. Jacques Hadamard
    e. NOTA

28. Which of the following was NOT on the famous list of problems created by David Hilbert in 1900?
    a. The axiomatization of physics       b. The densest sphere packing
    c. Uniformization                      d. Da Vinci's Equation
    e. NOTA

29. If one were to argue the greatest mathematician of all time, it would be difficult to leave Leonhard Euler out of the conversation. Thus, imagine trying to fill his role! Which of the following mathematicians followed Euler as the director of mathematics at the Prussian Academy of Sciences in Berlin, Prussia?
    a. Jean d'Alembert                     b. John Wilson
    c. Colin MacLaurin                     d. Joseph-Louis Lagrange
    e. NOTA

30. Whose name is also another name for the normal curve employed in probability and statistics to describe many phenomena?
    a. Leonhard Euler                      b. Carl Friedrich Gauss
    c. Henri Poincaré                          d. Pierre-Simon Laplace
    e. NOTA