

1. Which German mathematician created a paradox involving a hotel with infinite rooms?	
A. David Hilbert	B. Georg Cantor
C. Carl Fredrich Gauss	D. Felix Klein
E. NOTA	

2. Although more commonly known for his famous triangle, Blaise Pascal also developed a philosophical argument called <i>Pascal's</i> _____. This argument is a logical approach in attempting to prove the existence of God.	
A. <i>Surety</i>	B. <i>Wager</i>
C. <i>Proposition</i>	D. <i>Premise</i>
E. NOTA	

3. Find the sum of the missing three numbers from the following movie titles. _____ <i>Years in Tibet</i> starring Brad Pitt _____ <i>Angry Men</i> starring Henry Fonda _____ <i>Again</i> starring Zac Efron	
A. 32	B. 33
C. 34	D. 37
E. NOTA	

4. A method for solving systems of equations using rectangular arrays of counting rods was found in _____ <i>Chapters on the Mathematical Art</i> , an ancient Chinese text.	
A. <i>Nine</i>	B. <i>Ten</i>
C. <i>Eleven</i>	D. <i>Twelve</i>
E. NOTA	

5. Which of the following died at 20 years old after being challenged to a duel over a young woman? Legend says that he was so convinced that he would die in the duel that he spent the night before recording some new theorems and conjectures.	
A. Niels Abel	B. Frank Ramsey
C. Evariste Galois	D. Blaise Pascal
E. NOTA	

6. Which French mathematician primarily studied factorials and is credited with being the first to use the exclamation point as its symbol?	
A. Gaspard Monge	B. Pierre-Simon Laplace
C. Christian Kramp	D. Joseph Fourier
E. NOTA	

7. Lars Ahlfors and Jesse Douglas were the first recipients of the Fields Medal. In what year did this happen?	
A. 1904	B. 1916
C. 1936	D. 1948
E. NOTA	

8. George Dantzig is known for his <i>simplex method</i> for solving linear programs. His inspiration for developing this method came from his experiences in the United States Air Force during which war?	
A. World War I	B. World War II
C. Korean War	D. Vietnam War
E. NOTA	

9. Which president committed to studying the first six books of Euclid's <i>Elements</i> after he continued to see the word "demonstrate" and was not fully satisfied with its meaning?	
A. Thomas Jefferson	B. James Monroe
C. James Madison	D. Abraham Lincoln
E. NOTA	

10. <i>Hounds and Jackals</i> is the modern name given to an ancient Egyptian board game. How many holes does the game board have?	
A. 58	B. 36
C. 50	D. 10
E. NOTA	

11. Which of the following ancient measures of length is the shortest?	
A. ligne	B. yojana
C. rod	D. pace
E. NOTA	

12. Which calendar was the <i>first</i> to use leap years?	
A. Julian Calendar	B. Roman Calendar
C. Gregorian Calendar	D. Hebrew Calendar
E. NOTA	

13. Which of the following was the daughter of the famous poet Lord Byron?	
A. Emmy Noether	B. Sophie Germain
C. Mary Somerville	D. Sofia Kovalevskaya
E. NOTA	

14. Although today we commonly refer to them as the “legs” of a right triangle, another word used for the shorter sides in a right triangle are the \_\_\_\_.

A. barnae

B. pediums

C. gingi

D. catheti

E. NOTA

15. A large steel sculpture created by Adrian Ocneanu and called the *Octacube* is displayed in which college university?

A. Penn State

B. Yale

C. Vanderbilt

D. MIT

E. NOTA

16. *De Triangulis Omnimodis* which translates to “On Triangles of Different Kinds,” is one of the first books on trigonometry and was written by whom?

A. Richard Dedekind

B. Regiomontanus

C. Johannes Kepler

D. Oskar Bolza

E. NOTA

17. Zeno of Elea is known for many paradoxes. In one of these, the Trojan god Achilles is in a race trying to catch up to which animal?

A. tortoise

B. snail

C. hare

D. wildebeest

E. NOTA

18. Using a polygon with  $2^{62}$  sides, Ludolph Van Ceulen calculated pi to how many decimals?

A. 57

B. 44

C. 35

D. 25

E. NOTA

19. *Instituzioni analitiche ad uso della gioventu italiana* (Analytical Institutions for the Use of Italian Youth), written by Maria Agnesi, is a book on calculus. Due to a translation error of the Latin word *versiera* which correctly translates as “to turn,” a curve discussed in this text goes by the name The \_\_\_\_ of Agnesi.

A. Witch

B. Elbow

C. Donut

D. Cannon

E. NOTA

20. Rene Descartes is widely known as the creator of the Cartesian plane. A popular story tells us that he got his ideas for it by watching a _____ crawling on the ceiling and wanting to describe the way it moved.	
A. spider	B. fly
C. bumble bee	D. lizard
E. NOTA	

21. Although it was lost for some time, whose book <i>Metrica</i> was found in 1896? In it is the proof for his formula for calculating the area of a triangle.	
A. Euclid	B. Pythagoras
C. Thales	D. Heron
E. NOTA	

22. Amicable numbers are two numbers that are related such that the sum of the proper divisors of one is equal to the other. Many mathematicians have dabbled in amicable numbers and have searched for pairs of them. In 1866 a young teenager named Nicolo Paganini found a pair that had somehow been overlooked by those before his time. Listed below are the first four pairs of amicable numbers. Which pair did Nicolo find?	
A. 220 and 284	B. 1184 and 1210
C. 2620 and 2924	D. 5020 and 5564
E. NOTA	

23. Adrien-Marie Legendre was a tireless pursuer of which of Euclid's postulates, also known as the <i>parallel postulate</i> ? Although he was never able to prove it, his findings were written in his book <i>Elements de geometerie</i> .	
A. Postulate 1	B. Postulate 2
C. Postulate 3	D. Postulate 4
E. NOTA	

24. Who authored <u>Begriffsschrift</u> in 1879, a book about logic and mathematics?	
A. Gottlob Frege	B. Brook Taylor
C. Isaac Barrow	D. Kurt Godel
E. NOTA	

25. Gabriel's Horn, also known as ____ is a geometric paradox of a solid with an infinite surface area but a finite volume.	
A. Poseidon's Conch	B. Torricelli's Trumpet
C. Neptune's Trident	D. Matisse's Snail
E. NOTA	

26.  $2^{67} - 1$  was originally thought to be a Mersenne Prime. However, in 1903 \_\_\_\_ made a presentation where he first calculated, by hand,  $2^{67} - 1$ . He then also showed the calculation  $193,707,721 \times 761,838,257,287$  proving that  $2^{67} - 1$  can be factored and therefore is not prime.

A. Henry Daniels

B. Eric Goles

C. Frank Nelson Cole

D. Rollo Davidson

E. NOTA

27. Kaprekar's constant is which of the following four digit numbers?

A. 6174

B. 4671

C. 7641

D. 1674

E. NOTA

28. By creating a large Markov chain model, statisticians have concluded that some spaces on a Monopoly game board have a higher probability of being landed on than others. Which *property* ranks the highest on the list of spaces that a player is most likely to land on?

A. Boardwalk

B. Illinois Avenue

C. New York Avenue

D. Pennsylvania Avenue

E. NOTA

29. The Clay Mathematics Institute in Cambridge, MA established 7 "Prize Problems" in May of 2000. A prize fund of 7 million dollars allocates a prize of 1 million dollars for each problem that is solved. The only one of the 7 problems that has been solved is which of the following?

A. Navier-Stokes Equation

B. Poincare Conjecture

C. Riemann Hypothesis

D. Hodge Conjecture

E. NOTA

30. Who is known as the Father of Accounting?

A. Nicolas Chuquet

B. Luca Pacioli

C. Jehan Adam

D. George Kinder

E. NOTA