Trivia Contest
Kent State Tuscarawas Math Awareness Week
April 9–13, 2012

Name: _____

Address: _____

Telephone Number: _____

Email Address: _____

CONTEST PRIZE: The winner of this contest will receive a $200 tuition waiver to Kent State Tuscarawas.

RULES FOR THE TRIVIA CONTEST:

- This contest is open to all students currently registered at Kent State Tuscarawas.
- The winner of this contest will be the individual who answers the most questions correctly.
- In the event that more than one correct entry is received for this contest, a random drawing of all correct entries will be used to determine the winner.
- All winners will be notified by mail and will be listed on the Kent State Tuscarawas Math Awareness Week Website at

  http://www.personal.kent.edu/~bosikiew/MathWeek

- All entries should be submitted to either Dr. Beth Osikiewicz, B-115, or Dr. Jeff Osikiewicz, B-110, by 7:00 PM, Thursday, April 12, 2012. Problems may also be placed in our mailboxes located in the Faculty Support Office, B-120.
- If you have questions concerning the problems, please email one of the organizers at bosikiew@kent.edu or josikiew@kent.edu
- The organizers are not responsible for late or lost entries.
- The organizers reserve the right to modify the rules if necessary.
- The decision of the judges is final.
- The $200 tuition waiver can only be used at Kent State Tuscarawas during Summer 2012, Fall 2012, or Spring 2013. It **cannot** be exchanged for a gift certificate or cash, and **cannot** be transferred to another student.

DUE BY THURSDAY, APRIL 12, 2012 AT 7:00 PM

Signature: _____

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1. Which mathematician who lived from 1854–1912 stated:

   > "The mathematician does not study pure mathematics because it is useful; he studies it because he delights in it because it is beautiful."

2. Fill in the blank: The Sieve of _____ is a simple ancient algorithm for finding all prime numbers up to a specified integer.

3. Napoleon's Theorem, which is generally attributed to Napoleon Bonaparte, states an interesting property about which geometric figure?

4. What is the formula for the distance in the coordinate plane between two points (x_1, y_1) and (x_2, y_2).

5. What number is known as Kaprekar's constant?

6. This mathematical object is a surface with only one side and only one boundary component. Name this mathematical object.

7. A googol is the number 10^{100}, that is, the digit 1 followed by one hundred zeros. The term was coined in 1938 by Milton Sirotta, the 9 year nephew of which American mathematician who popularized the concept in his book *Mathematics and the Imagination.*

8. This French mathematician was born in Bourg-la-Reine. While still in his teens, he was able to determine a necessary and sufficient condition for a polynomial to be solvable by radicals, thereby solving a long-standing problem. His work laid the foundations for a major branch of abstract algebra which bears his name. Unfortunately, he died at the age of 20 from wounds suffered in a duel. Who was this mathematician?

9. The Mayan people lived mainly in southeastern Mexico and in much of northwestern Central America. Knowledge of arithmetic, and astronomical matters were more highly developed by the ancient Mayan than by any other New World peoples. Their numeration system utilized three basic numerals: a dot to represent 1; a horizontal bar to represent 5, and a conch shell to represent what number?

10. This Polish mathematician helped develop the atomic bomb in Los Alamos, New Mexico during World War II. After the war, he did further work at Los Alamos and for a time had the dubious distinction of being known at "The Father of the H-Bomb," a title that eventually stuck with his partner Edward Teller. Unlike Teller, he subsequently campaigned in favor of the ban on atmospheric testing of nuclear weapons. In the mathematical world, he is best know for his theoretical work in set theory, probability, and topology. Name this mathematician who wrote an autobiography called *Adventures of a Mathematician.*

OVER ⇒

11. One hectometer is equivalent to how many meters?

12. In 1796, this German mathematician, at the age of 19, demonstrated that it was possible to construct a regular polygon of 17 sides using only a straightedge and compass. This was a remarkable discovery at the time since it was believed that the ancients had exhausted all such possible constructions. Sometime during his life, this individual called mathematics "the Queen of the Sciences." Name this German mathematician.

13. This french mathematician worked on definite integrals and Fourier series. He is known for the following quote:

    > Life is good for only two things, discovering mathematics and teaching mathematics.

    Name this mathematician.

14. What is the sum of the vertex angles of a convex quadrilateral?

15. This female mathematician grew up in Germany and had her mathematics education delayed because of rules against women enrolling at universities. After she received her PhD, for a dissertation on a branch of abstract algebra, she was unable to obtain a university position for many years, eventually receiving the title of "unofficial associate professor" at the University of Gottingen, only to lose that in 1933 because she was Jewish. Shortly after her death in 1935, Albert Einstein wrote a letter to the New York Times, lauding this female mathematician as "the most significant creative mathematical genius thus far produced since the higher education of women began." Who is this female mathematician that developed many of the mathematical foundations for Einsteins general theory of relativity and made significant advances in the field of algebra?