Descartes: A French Mathematician and Philosopher

René Descartes, a 17th century Frenchman, had a profound influence on the study and development of mathematics and philosophy. Although a devout Catholic, his work, like that of Galileo, who wrote at the same time, represented a break with the teachings of the Church. Descartes believed that much of what man perceived about Nature was deceiving. Consequently, he maintained that he was only sure of the fact that he doubted everything. So, beginning with the idea that he could think and analyze, he began his reasoning with: "Cogito, ergo sum." or "I think, therefore I am." He therefore went about doubting and then trying to prove accepted ideas as well as new propositions. Descartes demanded that all inquiry submit to the kind of proof that mathematics required. In that process, he made many important mathematical discoveries and brought scientific rigor to the study of philosophy.

Here are some questions that will perhaps lead you to understand the influence and contributions of René Descartes:

1. René Descartes was born in
    a. Holland.
    b. Italy.
    c. France.

2. Descartes spent a lot of his adult life in
    a. Holland.
    b. Italy.
    c. France.

3. In Descartes' *Philosophical Essays*, he discussed philosophy and also
    a. geometry.
    b. optics.
    c. meteors.
    d. geometry, optics, and meteors.

4. His study of optics led him to discover the basic law of
    a. myopia.
    b. stigmatism.
    c. reflection & refraction.

5. Descartes applied the methods of algebra to the methods of geometry and created
    a. analytical geometry.
    b. algeometry.
    c. statistics.

6. Descartes' idea that motion was the result of mass times velocity is now called
    a. momentum.
    b. inertia.
    c. miles per hour.

7. Descartes was the first mathematician to use the last letters of the alphabet, i.e. “x”, “y”, “z” to designate
    a. known quantities.
    b. unknown quantities.
    c. angles.

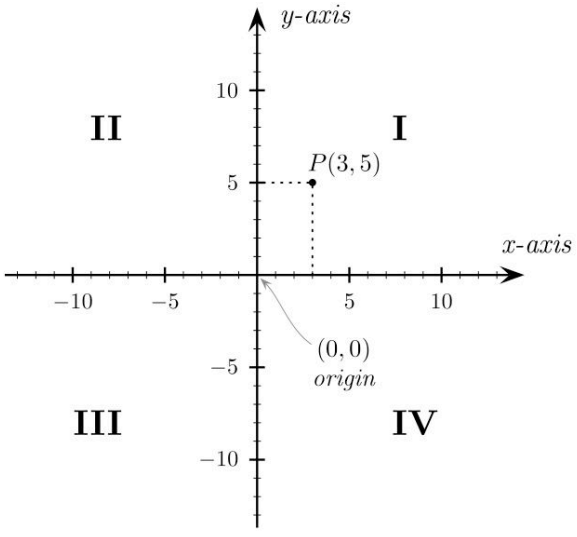
8. Descartes was the first mathematician to use a geometric figure to represent a mathematical
    a. theory.
    b. function.
    c. answer.

9. The geometric figure that Descartes created is called
    a. a function graph.
    b. a triangle.
    c. an ellipse.

10. Descartes invented the way to express the power of numbers such as
    a. a - b = c.
    b. x(y) = z.
    c. x^2.

BONUS QUESTION

How many French mathematicians have won the Nobel Prize for Mathematics?



Mathematics and French
Answers

1. René Descartes was born in La Haye, France.

2. Descartes spent a lot of his adult life in Holland.

3. In Descartes' *Philosophical Essays*, he discussed philosophy and also geometry, optics, and meteors.

4. His study of optics led him to discover the basic law of reflection and refraction.

5. Descartes applied the methods of algebra to the methods of geometry and created analytical geometry.

6. Descartes' idea that motion was the result of mass times velocity is now called momentum.

7. Descartes was the first mathematician to use the last letters of the alphabet, i.e. "x", "y", "z" to designate unknown quantities.

8. Descartes was the first mathematician to use a geometric figure to represent a mathematical function.

9. The geometric figure that Descartes created is called a function graph.

10. Descartes invented the way to express the power of numbers such as x^2.

BONUS QUESTION

How many French mathematicians have won the Nobel Prize for Mathematics?
This is a trick question: **NONE**. There is no Nobel Prize for Mathematics. While there are several prizes for mathematics, the most noted is the Fields Prize.

SOURCES:

Eric W. Weisstein, Wolfram Research, Scienceworld, Wolfram.com, 1996-2007.

Biography, Science-mathematicians, InfoPlease.com

The Universal Standard Encyclopedia, Volume 7, Wilfred Funk, Inc, 1954 and 1955.