

Topics for Round I:

Famous Numbers

Differentiate THIS: you are to differentiate the expression.

Correct questions will be of the form "What is the antiderivative of $f'(x)$?"

Famous Mathematicians pre-1900

Counting: Basic Combinatorial Questions

Millennium Prizes: problems with a \$1,000,000 bounty from the Clay Mathematical Institute

Topics for round 2:

Grouped Together: Answers Surrounding the Theory of Groups

Integrate THIS: You are to integrate the given expression.

Correct questions will be of the form "What is the derivative of $F(x)$?"

Famous Mathematicians post-1900

Mathematics on the Big and Small Screens: Movies and TV Series

Name the (set of) Numbers: You will be given the symbol that represents a set of numbers

Final Jeopardy Topic: Polynomials

Round I

Famous numbers:

\$100	pi
\$200	Golden ratio
\$300	e
\$400	Euler's constant
\$500	Catalan's constant

Differentiate THIS:

\$100	e^x
\$200	$\cos(x)$
\$300	$\sec(x)\tan(x)$
\$400	$\frac{1}{1+x^2}$
\$500	Dirac delta function $\delta(x)$

Famous Mathematicians pre-1900:

\$100	Isaac Newton
\$200	Leibniz
\$300	Carl-Frederik Gauss
\$400	Leonhard Euler
\$500	Archimedes

Counting:

\$100	$4! = 24$
\$200	$5!/5 = 24$
\$300	5
\$400	$8 \times 8 \times 5 = 320$
\$500	$4 \text{ choose } 2 = 6$

Millennium prizes:

\$100	Hodge conjecture
\$200	Riemann hypothesis
\$300	Poincare Conjecture
\$400	$P = NP$
\$500	Birch & Swinnerton-Dyer Conjectures

Round II

Grouped Together:

- \$100 What is a group
- \$200 Dihedral group of order $2n$
- \$300 Symmetric group on n objects
- \$400 60
- \$500 6

Integrate THIS:

- \$100 e^x
- \$200 $-\cos(x)$
- \$300 $-\ln(\cos(x))$ or $\ln(\sec(x))$
- \$400 $x e^x - e^x$ or $(x-1) e^x$
- \$500 $\frac{1}{2} (\ln(x))^2$

Famous Mathematicians post-1900:

- \$100 Grigori Perelman
- \$200 Alan Turing
- \$300 Kurt Godel
- \$400 Edward Witten
- \$500 Alexander Grothendieck

Mathematics on the Big and Small Screens:

- \$100 Good Will Hunting
- \$200 A Beautiful Mind
- \$300 Moneyball
- \$400 Numb3rs
- \$500 Stand and Deliver

Name the (set of) Numbers:

- \$100 Real numbers
- \$200 Integers
- \$300 Complex numbers
- \$400 Rational numbers
- \$500 Gaussian integers

Final Jeopardy:

2^{26}