George Boole Outline

Nick Zayatz and Michele Burns

April 3, 2016

1. Introduction
2. Life
   (a) Fill in stuff here Michele!
3. Contributions to Mathematics
   (a) Numerical Analysis
      i. Wrote "On the Comparison of Transcendents, with Certain Applications to the Theory of Definite Integrals" (1857)
         A. Boole's Identity
   (b) Boolean Algebra
      i. Introduced in "The Mathematical Analysis of Logic" (1847)
      ii. Refined in "An Investigation of The Laws of Thought" (1854)
      iii. Notation
         A. Variables
         B. Negation
         C. Or
         D. And
         E. True
         F. False
      iv. George Boole first explained the concept in terms of sets

A. Difference

v. Axioms of Boolean Algebra

A. Identity

B. Null Value

C. Complement

D. Idempotent

E. Commutative

F. Associative

G. Distributive

H. Inverse

I. Absorption

vi. Other Common Boolean Algebra Rules

A. Exclusive Or

B. Nor

C. Nand

D. Demorgan's

vii. Duality principle of Boolean Algebra

(c) Probability

i. In the second part of "An Investigation of The Laws of Thought" (1854)

A. Boole's Inequality

4. Conclusion