

## HISTORY OF MATHEMATICS — ASSIGNMENT TWO

- (1) (2 points) What is Hilbert's "Entscheidungsproblem"?
- (2) (4 points) Schönfinkel introduced the fundamental concept of combinators. Could you list three combinators?
- (3) (3 points) Can you define  $\lambda$ -calculus'  $\beta$ -contraction?
- (4) (4 points) What is the definition of a function defined by primitive recursion?
- (5) (2 points) What is a "universal Turing machine"?
- (6) (3 points) Can you state Rice's theorem?
- (7) (3 points) Who proved that Hilbert's tenth problem is undecidable?
- (8) (1 points) Who wrote "First Draft of a Report on the EDVAC" (1945)?
- (9) (2 points) Why is ENIAC significant?
- (10) (4 points) Can you list the core components of a finite state automaton?
- (11) (2 points) Who proved that the Boolean Satisfiability Problem is **NP**-complete in 1971?
- (12) (2 points) What is the difference between bits and qubits?