HISTORY OF MATHEMATICS — ASSIGNMENT ONE (EXAMPLE)

(1) (2 points) What are our two main sources of information about Egyptian Mathematics? When they have been written?
The Moscow papyrus (∼1800 BCE) and the Rhind papyrus (∼1650 BCE).

(2) (5 points) Can you prove Thales theorem: An angle inscribed in a semicircle is a right angle?
See slide 72.

(3) (2 points) Why Thales of Miletus is important?
Mainly because he is the first mathematician to seek proofs.

(4) (3 points) Why Japanese Mathematics in the Edo period is interesting?
In the Edo period, Japan was isolated from the rest of the world. isolation allowed Wasan to develop along its own unique trajectory, focusing on specific types of problems and methodologies.

(5) (2 points) Why the "Book on Addition and Subtraction after the Method of the Hindus" is important?
It was the main book introducing the Hindu-Arabic numeral system.

(6) (4 points) When spherical trigonometry was introduced?
For sure by Nasir al-Din al-Tusi, so around the first half of 1200 CE.

(7) (2 points) What was the major contribution of François Viète?
He introduced notation for equations and formulas.

(8) (3 points) Who conceived the idea of finding maxima and minima by setting the derivative to zero?
Pierre de Fermat.

(9) (2 points) What was the discipline for which the "brachistochrone problem" was crucial?
The calculus of variations.

(10) (2 points) Who developed the first non-Euclidean geometry, although not publishing the result?
Carl Friedrich Gauss.

(11) (2 points) Who wrote "On the Hypotheses which Lie at the Bases of Geometry"?
Bernhard Riemann.

(12) (3 points) What has been proved by Yuri Matiyasevich (1970)?
That Hilbert's tenth problem is undecidable.