



Assignment 7  
Math 105 History of Mathematics  
Prof. D. Joyce, Spring 2017

**Due** Due Monday, Mar 20.

**Part I.** Write up a rough outline for your paper, just the major topics, not the subtopics. This is to help you organize. You might not actually follow this outline later on. Here are some things you might include if, say, you're writing about a particular mathematical work by a particular mathematician: an introduction where you briefly describe the work and the mathematician, previous works that led up to this work, a short biography of the mathematician, details of the work, the importance of the work, later mathematics that the work influenced. If you're not doing a particular mathematical work, then you'll probably have very different kinds of major topics.

**Part II.** Exercises from the text. Page 227, exercises 21 and 26, and on page 262, exercise 14.

**21.** Solve the equation  $16x^2 + 192x - 1863.2 = 0$  using Qin Jiushao's procedure.

**26.** Solve Problem I, 4, from the *Shushu jiuzhang*, which is equivalent to  $N \equiv 0 \pmod{5}$ ,  $N \equiv 4 \pmod{9}$ ,  $N \equiv 6 \pmod{8}$ , and  $N \equiv 0 \pmod{7}$ .

**14.** A problem from Mahavira: If 3 peacocks cost 2 coins, 4 pigeons cost 3 coins, 5 swans cost 4 coins, and 6 sarasa birds cost 5 coins, and if you buy 72 birds for 56 coins, how many of each type of bird do you have?

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