Attendance for Dr. Z.'s MathHistory for Lecture 8 (due no later than 10 minutes after class)

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Attendance Question
- 355/113 is important it is the approximation of pi found by Chinese mathematician Zu Chongzhi.

Email to DrZlinear@gmail.com right after class

Subject: p8

with an attachment p8FirstLast.pdf

Part I: List all the "attendance questions" during the lecture, followed by your answers.

Part II:

1. Convert the fraction $\frac{11}{4}$ into a simple continued fraction.

2 + 1/(1+1/3)

2. Give in full detail, **any** (correct!) proof that $\sqrt{2}$ is irrational.

Assume sqrt(2) is rational therefore sqrt(2) = a/b for some integers a and b and they are in lowest terms. Then 2 = a^2/b^2. It follows that 2b^2 = a^2. That means 2 divides a^2, which means 2 divides a, hence we can write a = 2k. Therefore we have that (2k)^2 = 4k^2 = 2b^2. It follows that 2k^2 = b^2. Hence following the same logic we can see that 2 divides b, therefore both a and b are even, hence we can divide both by 2 and get a fraction in lower terms than a/b, which is a contradiction. Hence sqrt(2) is irrational.