Vivian Choong
Attendance Quiz 1

(1) According to Google, who is the greatest mathematician of all time?
Euler

(2) What undergraduate institution did Dennis deturk graduate from?
Drexel

(3) What university did "S" study in for the RSA Algorithm?
Adi Shamir studied in the Weitmann Institute of Science and Tel Aviv University

Attendance Quiz # 1 for Dr. Z.'s MathHistory for Lecture 1 (due no later than 10 minutes after class)

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Email to DrZlinear@gmail.com right after class

Subject:p1

with an attachment p1FirstLast.pdf

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

Part II:

1. (a) Use the **greedy algorithm** to express $\frac{7}{12}$ as an Egyptian fraction. Use this to equally divide 7 pizzas among 12 people.

$x = \frac{7}{12}$ $\frac{1}{x} = \frac{12}{7}$ $\text{ceil}\left(\frac{12}{7}\right) = 2$

$EF\left(\frac{7}{12}\right) = \frac{1}{2} + EF\left(\frac{7}{12} - \frac{1}{2}\right) = \frac{1}{2} + EF\left(\frac{1}{12}\right)$

$\frac{7}{12} = \frac{1}{2} + \frac{1}{12}$

(I do not know how to divide it equally)

(b) Note that a better way to express $\frac{7}{12}$ as an Egyptian fraction is

$$\frac{7}{12} = \frac{1}{3} + \frac{1}{4} \quad .$$

Use this better way to equally divide 7 pizzas among 12 people. Why is it better?

Each pizza would either be divided into 1/4ths or 1/3rds.

2. Find the two smallest positive integers n, that have the property that

- If you divide n by 3 you get remainder 1 . $n \equiv 1 \pmod 3$
- If you divide n by 5 you get remainder 2 . $n \equiv 2 \pmod 5$

$f(0) = (0,0)$ $f(1) = (1,1)$ $f(2) = (2,2)$

$f(3) = (0,3)$ $f(4) = (1,4)$ $f(5) = (2,0)$

$f(6) = (0,1)$ $f(7) = (1,2)$

7 and $7 + 3(5)$

7 and 22