

Mathematics 446 — second assignment — due Monday, September 22

Read my notes on Pythagorean triples and arithmetic.

I. Do exercises 1, 2, 3 from the notes on triples.

II. Do exercises 1, 2, 3, 4, and 6 from the (first version of the) notes on arithmetic.

III. Find the ‘decimal’ expansion of $1/11$, $1/13$, and $1/23$ in base 60, explaining the repetition that occurs.

IV. Look at the cover of the August, 2002 **Notices** of the American Mathematical Society at

<http://www.ams.org/notices>

Expand it into a simple proof that a right triangle with sides 3 and 4 has hypotenuse of length 5.

V. Read the passage from Plato’s **Meno** that’s mentioned in the course outline. State clearly in your own words the result he is deriving here; include a picture or pictures to go with it. Give all details.

VI. Divide $50 : 31$ into $56 : 47 : 0 : 5 : 23$ in base 60, exhibiting all steps.

VII. Read the **Monthly** papers by Buck and Robson. Summarize the two papers in a single essay of about 200 words—in particular, no more than 200 words. Write clearly and efficiently. Grammar and spelling will be taken into account.