

MAT 331 Fall 2017, Practice Quiz 2
Quiz 2 on Tuesday Sept 26, 2017 (30 minutes)

Name	ID	Score
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For answers that are real numbers, include all non-zero digits to the left of the decimal place, include the decimal place in a box, and as many digits to the right of the decimal place as will fit in the remaining boxes. Truncate, do not round, e.g., given five boxes for $\sqrt{7} = 2.64575131106\dots$, write “2.645”. If a number has no digits to the left of the decimal point, start with the decimal point, e.g., given ten boxes, write $1/\sqrt{2}$ as “.707106781”. Right justify integer answers, and place blanks (or zeros) in any remaining boxes on the left. For example, given 10 boxes to write 2^{20} either write “0001048576” or “1048576” preceded by three blank boxes.

(1)

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What is the 1000th prime number?

(2)

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What is the sum of the first 1000 prime numbers?

(3)

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How many primes are less than 5000?

(4)

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How many twin prime pairs are there less than 100,000. (A pair of primes (p, q) are twin primes if $q = p + 2$, that is, they are consecutive prime numbers).

(5)

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How any primes between 1 and 1,000,000 are palindromic, that is they are the same number if you reverse the digits? For example, 10501 is such a prime.

(6)

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In the list prime numbers between 1 and 1,000,000, compute how many times each digit occurs. How many times does the most frequent digit occur?