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Second Quiz
Math 114 Discrete Mathematics
D Joyce, March 2018

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1. [5] About primes, GCDs, and LCMs. (Show a little bit of work on each part so I know you're not just guessing.)

a. [2] What is the prime factorization of 9100?

b. [1.5] What is the greatest common divisor of 32 and 100?

c. [1.5] What is the least common multiple of 32 and 100?

2. [3] List the following functions in increasing order of growth so that the slowest growing function comes first, and the fastest growing function last.

$$x, \quad 2^x, \quad \log x, \quad x^2, \quad x(\log x)^2, \quad x^x, \quad \log(\log x)$$

3. [2] Find the smallest value of n so that $(4x^2 + 3x + 1)^3$ is $\mathcal{O}(x^n)$. Explain how you found n in a sentence or two. (You don't have to prove it or find C or k.)