COT 3100 Quiz #2 (Version A): Factorization, Arith/Geo Series, Counting (10/28/2024)

Last Name: _____ First Name: _____

Circle Recitation: 8:30 am 9:30 am

1) (5 pts) What is the minimum positive integer, m such that $75m = N^3$? (In order to get full credit, an efficient method must be used.)

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2) (5 pts) How many positive integers in between 200 and 500 have an odd number of positive divisors?

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3) (5 pts) The 10^{th} term in an arithmetic series is 35 and the 15^{th} term in the same arithmetic series is 20. What is the first term of the sequence?

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4) (5 pts) An **infinite** geometric sequence has the first term 7 and a sum of 10. What is the second term of the sequence? (Write your answer as a decimal to the nearest tenth.)

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5) (5 pts) 125 unit cubes are put together into a 5 x 5 x 5 cube and the surface of this 5 x 5 x 5 cube is painted. Then the unit cubes are pulled apart. How many of the 125 unit cubes were **NOT painted** at all?

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6) (5 pts) Gemma is choosing 3 different flowers out of 9 potential choices (also each different). In how many ways can she do this? **Please do arithmetic by hand to simplify your answer to a single number without powers, combinations, etc.**

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