Name: _____ Student ID: _____ Section: _____

Instructions. Grading is based on method. SHOW ALL WORK.

Submit solutions at the beginning of class on Monday.

1. (8 points) Let a, b, c be distinct prime numbers and let $n = ab^2c^3$. Excluding $1 = a^0b^0c^0$, how many positive integer divisors does n have? For example, ab and b^2 are two such divisors.

2. (12 points) How many 5 or 6-letter words can be created from the multiset $M = \{\{a, b^2, c^3\}\}$? For example, it is impossible to create a 5-letter word from M using only one c.