Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Student ID# (last 4 digits) \_\_\_\_\_\_

Instructions: This is not a graded event but a study aid. Work all problems to build experience and speed. You will have 10 minutes. Underline your answers.

Section I: Using the modulo function*, f: x mod n* where x is some number and n is the modulus for the following problems find the reminder r. The values x, n, and r below to the real number domain.

1. 25 mod 6 r = \_\_\_\_
2. 155 mod 7 r = \_\_\_\_
3. 255 mod 16 r = \_\_\_\_
4. 259,000 mod 2 r = \_\_\_\_
5. 649,551 mod 16 r = \_\_\_\_

Section II: Using the modulo function, *f: x mod n* where x is some number and n is the modulus the following problems find the quotient, q. The values x, n, and q belong to the real number domain.

1. 16 mod 3 q = \_\_\_\_
2. 678 mod 15 q = \_\_\_\_
3. 256 Mod 2 q = \_\_\_\_
4. 705,000 Mod 47 q = \_\_\_\_
5. 255,000 mod 16 q = \_\_\_\_

Section III: For worksheet problems 1 through 10, restate the modulo function in the form of: x = nq + r, where x, n, q and r are in the Integer domain.

1. 25 mod 6 ↔ \_\_\_\_\_\_\_\_\_\_\_
2. 155 mod 7 ↔ \_\_\_\_\_\_\_\_\_\_\_
3. 255 mod 16 ↔ \_\_\_\_\_\_\_\_\_\_\_
4. 259,000 mod 2 ↔ \_\_\_\_\_\_\_\_\_\_\_
5. 649,551 mod 16 ↔ \_\_\_\_\_\_\_\_\_\_\_
6. 16 mod 3 ↔ \_\_\_\_\_\_\_\_\_\_\_
7. 678 mod 15 ↔ \_\_\_\_\_\_\_\_\_\_\_
8. 256 Mod 2 ↔ \_\_\_\_\_\_\_\_\_\_\_
9. 705,000 Mod 47 ↔ \_\_\_\_\_\_\_\_\_\_\_
10. 255,000 mod 16 ↔ \_\_\_\_\_\_\_\_\_\_\_

Section IV:

1. You need to store the number 524290 in your computer, but your computer only has 16 bit registers for storing data (numbers). Is this a problem? If so how do you solve it using the modulo function?