**Professional Coding Challenge Answers 10/24/2017**

1. Input: multiply(1, -6) Input: multiply(14, 37) Input: multiply(-4, -7)

Output: -6 Output: 518 Output: 28

2. Input: “1c67al8ne”, “hl9eg5” Input: “g3o 2od”, “od6fo”

Output: “challenge” Output: “good food”

3. Input: 7, 8 Input: 0, 12

Output: 4 Output: 22

4. When scoring this problem, it’ll be very easy to determine whether something is right or wrong. Just give them the input and view their output, comparing it to the corresponding numbers of letters (in proper alphabetical order) in the output here. (They’ll be outputting a histogram, not numbers. I just didn’t feel like writing another one out on Word.)

Input: AZAaBZY3BACY

Output: 3As, 2Bs, 1C, 2Ys, 2Zs

5. Input: 312, 4 Input: 940, 6

Output: False Output: True

**Confirmation**: **Confirmation**:

34 = 3 x 40 = 3 96 = 9 x 60 = 9

3 / 1 = ✓ 9 / 1 = ✓

314 = (3 x 41) + (1 x 40) = 13 946 = (9 x 61) + (4 x 60) = 58

1 / 1 = ✓ 13 / 2 = X 5 / 1 = ✓ 58 / 2 = ✓

3124 = (3 x 42) + (1 x 41) + (2 x 40) = 54 9406 = (9 x 62) + (4 x 61) + (0 x 60) = 348

5 / 1 = ✓ 54 / 2 = ✓ 3 / 1 = ✓ 34 / 2 = ✓ 348 / 3 = ✓