**Factoring Assignment**

Construct the factor tree underneath each number, and use it to write out the prime factorization of each number without using exponents.

1) 15 = \_\_\_\_\_\_\_\_ 2) 50 = \_\_\_\_\_\_\_\_ 3) 26 = \_\_\_\_\_\_\_\_ 4) 100 = \_\_\_\_\_\_\_\_

5) 18 = \_\_\_\_\_\_\_\_ 6) 13 = \_\_\_\_\_\_\_\_ 7) 20 = \_\_\_\_\_\_\_\_ 8) 42 = \_\_\_\_\_\_\_\_

9) 64 = \_\_\_\_\_\_\_\_ 10) 70 = \_\_\_\_\_\_\_\_ 11) 70 = \_\_\_\_\_\_\_\_ 12) 36 = \_\_\_\_\_\_\_\_

Create the factor trees as above, then write the prime factorization using exponents to represent repeated multiplication.

13) 12 = \_\_\_\_\_\_\_\_ 14) 8 = \_\_\_\_\_\_\_\_ 15) 25 = \_\_\_\_\_\_\_\_ 16) 48 = \_\_\_\_\_\_\_\_

17) 52 = \_\_\_\_\_\_\_\_ 18) 60 = \_\_\_\_\_\_\_\_ 19) 35 = \_\_\_\_\_\_\_\_ 20) 20 = \_\_\_\_\_\_\_\_

What is the GCF between each of the following? Show your thinking.

21) 15 and 20 22) 70 and 80

23) 35 and 63 24) 8 and 12

25) 14 and 25 26) 50 and 75

27) 81 and 45 28) 48 and 16

29) 39 and 26 30) 27 and 90