**Math 125**

**Class Exercises for**

**Section 5.2**

**Greatest Common Factor**

**1. Set Intersection Method**

Use set intersection method to find the GCF of the following pairs of numbers.

a) 24 and 16

 factors of 24: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 factors of 16: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 GCF(24, 16) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) 48 and 64

c) 54 and 72

**2. Prime Factorization Method**

Use the prime factorization method to find the GCF for the following pairs of numbers.

a) 36 and 54

 factor tree of factor tree of

 36 54

 GCF(36, 54) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) 16 and 51

c) 136 and 153

**3. The Subtraction method (original version of the Euclidean Algorithm)**

Use the subtraction method (or “calculator method” according to the book) to find the GCF of the following pairs of numbers.

a) 399 and 102

 GCF(399, 102) = GCF(399 – 102, 102)

 = GCF( , 102)

 = GCF( , 102)

 = GCF( , )

b) 963 and 657

c) 7286 and 1684

**Least Common Multiple**

**1. Set Intersection Method.**

a) Find the LCM of 6 and 8 by listing their multiples.

 b) Find the LCM of 12 and 15 by listing their multiples.

 c) Find the LCM of 20 and 22 by listing their multiples.

**2. Factorization method**

a) Find the LCM of 60 and 66 by the factorization method.

b) Find the LCM of 24, 36, and 42 by the factorization method.

3. Formula method

 Use the formula LCM(a, b) = (a × b) / GCF(a, b) to find the LCM of the following pairs of numbers.

 a) 39 and 111

 b) 125 and 225