Math-42 Worksheet #15

Primes and Greatest Common Divisors

1. Determine the prime factorizations of each of the following:

   (a) 3240

   (b) 65536

   (c) 5775

   (d) 1021

   (e) 10000

2. Use prime factorizations to determine the GCD and LCM of each pair of numbers:

   (a) 3240 and 756

   (b) 3240 and 5775

   (c) 65536 and 10000

   (d) 1021 and 5775

   (e) 1021 and 1021

3. Use Euclid's method to determine the GCD of each pair of numbers. Then use the GCD/LCM formula to determine the LCM. Which pairs are relatively prime?

   (a) 16 and 48

   (b) 97 and 37

   (c) 51 and 87

   (d) 105 and 300

   (e) 34709 and 100313

4. For each pair in the preceding problem, write the GCD as a linear combination of the two numbers.