

Math 1303 - Math in the Liberal Arts

Homework #2 - 2008.01.16

Due Date - 2008.01.25

Solutions

1. From page 210 in our book, we have rules tests for division by integers 2, 3, 4, 5, 6, 8 9 and 10. Using the internet or other sources, research tests for division by other integers such as 7 and 11. Do examples for each integer and each test that you find as well. Please cite your reference.

Answers will vary.

2. Find the prime factorization of 158760.

$$158760 = 2^3 \cdot 3^4 \cdot 5 \cdot 7^2$$

3. Find the prime factorization of 20580.

$$20580 = 2^2 \cdot 3 \cdot 5 \cdot 7^3$$

4. Using problems 2 and 3, compute the GCD of 158760 and 20580. You may leave your answer in prime factorization form if you wish.

$$\text{GCD}(158760, 20580) = 2^2 \cdot 3 \cdot 5 \cdot 7^2 = 2940$$

5. Using problems 2 and 3, compute the LCM of 158760 and 20580. You may leave your answer in prime factorization form if you wish.

$$\text{LCM}(158760, 20580) = 2^3 \cdot 3^4 \cdot 5 \cdot 7^3 = 1111320$$