

Math 18000 Homework 2

Show all working

Due: 21st October 6pm

Question 1: Find the prime decomposition of 780.

Question 2:

1. Find the least common multiple of 18 and 39
2. Find the greatest common divisor of 42 and 81

Question 3:

1. Show (by computation) that $\text{lcm}(27, 10) = 27 \times 10$.
2. Explain why the equation holds in this case (given that it fails in say 2a).

Question 4:

- Use the Euclidean Algorithm to find the greatest common divisor of 63 and 27
- Use this find the least common multiple

Question 5:

Come up with a test to determine whether or not a number is divisible by 30. (Briefly) explain why it works.