

Math 240, Quiz 4

Name:

Circle One: T 12:05 T 2:25 R 12:05 R 2:25

Instructions: Answer all questions fully, showing work where necessary.

1) Determine whether the following function from \mathbb{R} to \mathbb{R} are one-to-one and/or onto.

$$f(x) = x^5 + 1$$

2) Find the least integer n such that $f(x)$ is $O(x^n)$ for each of these functions.

a) $f(x) = 3x^5 + (\log x)^4$

b) $f(x) = (x^4 + x^2 + 1)/(x^4 + 1)$