

Homework 14

Name:

Date: June 21, 2013

P 1. Find the domain of

$$f(x) = \frac{\sqrt{x^2 - 25}}{4 \cos^2(\pi x) - 1} + 10x^{30} - 9x^2 + \frac{e^{x^2 - 9x + 1}}{(x - 1)(2 \log_3(x + 6) - 3)}$$

Express your answer in interval notation.

P 2. Graph

$$f(x) = \begin{cases} \frac{x^2-9}{x-3}, & x \leq 5 \\ -\sqrt[3]{x-5} + 2, & 5 < x < 13 \\ 3\ln(x-13) + 1, & 13 \leq x < 14 \\ \arctan(x-25) - 1, & 25 \leq x \end{cases}$$

What is the domain of f ?