$\begin{array}{c} \textit{University of Lethbridge} \\ \text{Department of Mathematics and Computer Science} \\ \mathbf{MATH~1565 - Quiz~\#4} \end{array}$

Print your name and student number clearly in the space above.

Complete the problems on the back of this page to the best of your ability. For full marks, provide complete details.

- (a) Let $f(x) = \frac{x^2 9}{x^2 1}$. What is the domain of f?
- (b) Calculate f'(x).

(c) What are the critical numbers of f?

(d) On what intervals is f increasing and on what intervals is f decreasing?