

MATH 133 – Calculus with Fundamentals 1  
Quiz 3 – September 29, 2017

Your Name: \_\_\_\_\_

*Directions*

Do all work on this sheet. There are 30 possible points.

- 1) (a) (10) Evaluate the function  $f(x) = \frac{x^3-1}{x-1}$  at the indicated  $x$ 's.

$x$	0.5	0.9	0.99	1.01	1.1	1.5
$\frac{x^3 - 1}{x - 1}$						

- (b) (5) Use those values to estimate  $\lim_{x \rightarrow 1} \frac{x^3 - 1}{x - 1}$ .

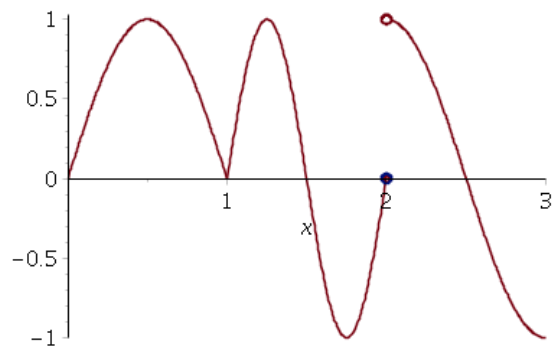


Figure 1: The Graph  $y = f(x)$

2) By examining the graph determine the indicated values and answer the questions.

(a) (3)  $\lim_{x \rightarrow 1^-} f(x) =$  \_\_\_\_\_

(b) (3)  $\lim_{x \rightarrow 1^+} f(x) =$  \_\_\_\_\_

(c) (3)  $\lim_{x \rightarrow 2^-} f(x) =$  \_\_\_\_\_

(d) (3)  $\lim_{x \rightarrow 2^+} f(x) =$  \_\_\_\_\_

(e) (3) Does  $\lim_{x \rightarrow 1} f(x)$  exist? \_\_\_\_\_ (Yes/No) Explain: