MATH-241 Calculus	Ι
Worksheet 01	

Created by Pierre-O. Parisé Spring 2021

First name: Section: _

Question:	1	2	Total
Points:	10	10	20
Score:			

Instructions: You must answer all the questions below and give your solutions to the TA at the end of the recitation. Write your solutions directly on the worksheet. Late worksheet will not be accepted.

_ Question 1 ______ (10 pts)

Compute the average velocity of an object on the time interval [2,4] if its position function is $s(t) = t^2 - 2.$

$$V_{\text{ave}} = \frac{5(4) - 5(2)}{4 - 2}$$

$$S(4) = 16-2 = 14$$
 _D Same = $\frac{14-2}{2} = 1$
 $S(2) = 4-2=2$

Using a table (or the graph of the function), guess the value of the following limits. When the limit is infinite, state if it is $+\infty$ or $-\infty$.

- (a) (5 points) $\lim_{x \to 0} \frac{x}{x^2 x}$.
- (b) (5 points) $\lim_{x \to 1^{-}} \frac{x}{x^2 x}$.
- (a) When $x \neq 0$, $\frac{x}{x^2-x} = \frac{1}{x-1}$

(b) Again, $x \neq 0$, $\frac{x}{x^2 - x} = \frac{1}{x + 1}$