


Course Title:	Numerical Methods	 جامعة الجوف Jouf University College of Engineering	Take Home Exam #: 1	
Course ID:	Math 254		Time Allowed: Mins	
Instructor:	Zaki Ahmed Zaki		Due date: 29/3/2021	
Level/Year	Fifth level/2021			
Student Name:		ID#:	Total Marks	10

Question #	1	Marks	10	CLO	2	SO	1	PLO	K2
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Question (1):

- (i) Given $f(x) = e^x$, for $x = 0, 1, 2, 3$ Determine $f'(3)$ and $f''(2)$ by using a difference formula and determine the error at each case
- (ii) Determine the solution of $\int_0^1 \frac{1}{1+x^3} dx$; by Trapezoidal rule, take $h=0.1$
- (iii) Determine the solution of $\int_0^1 \frac{1}{1+x^3} dx$; by Simpsons' rule, take $h=0.1$
- (iv) Evaluate $f'(1.2)$ and $f''(1.2)$

x	0.6	0.8	1.00	1.2
y	0.329287	0.359463	0.367879	0.361433