Midterm 2

MAT 127

Nov 2, 2015

Name: (please print)	**ID #**:
Your section:	(see list below)

	1 20pt	2 20pt	3 20pt	4 10pt	5 10pt	**Total** 90pts
Grade						

No notes, books or calculators.

You must show your reasoning, not just the answer. Answers without justification will get only partial credit.

Please cross out anything that is not part of your solution — e.g., some preliminary computations that you didn't need.

Lecture 01	MWF 10:00 AM – 10:53 AM	Alexander Kirillov
Lecture 02	MW 5:30 PM – 6:50 PM	Mark McLean
Lecture 04	TUTH 5:30 PM – 6:50 PM	Sabyasachi Mukherjee

1. *(20 pts)*

(a) Calculate the degree 2 Taylor polynomial $T_2(x)$ of xe^{2x} centered at $a = 1$.

(b) Show that $|xe^{2x} - T_2(x)| \leq 4e^3|x-1|^3$ in the interval $0.5 \leq x \leq 1.5$.