Your TA: _____ Seat #: ☐ – ☐

Math 105 TOPICS IN MATHEMATICS

MOCK QUIZ – XI

April 20 (Mon), 2015

Instructor: Yasuyuki Kachi

Line #: 52920.

ID # : _____ Name : _____

⋆ **This is not an actual quiz. The actual "Quiz – XI" will be discreetly similar to this sheet. This sheet is to help you prepare for that quiz. The timing of the quiz will be either Wednesday, April 22nd or Friday, April 24th.**

[I] (4pts) (1) $\frac{d}{dx}\, x^2 \;=\; \_\_\_\_\_$. (2) $\frac{d}{dx}\, 3x^8 \;=\; \_\_\_\_\_$.

[II] (4pts) (1) $\frac{d}{dx}\left(2x^3 + 3x - 5\right) \;=\; \_\_\_\_\_$.

(2) $\frac{d}{dx}\left(1 + \frac{1}{2!}x^2 + \frac{1}{4!}x^4 + \frac{1}{6!}x^6 + \frac{1}{8!}x^8\right)$

$=$ _____.

[III] (4pts) $\int 6x^5\, dx \;=\; x^6 + C.$

This means

"An antiderivative of ☐ is ☐ ".

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[IV] (4pts) $\left(\underline{\text{Do not forget } + C.}\right)$

(1) $\int 2x\,dx \;=$ _____ . (2) $\int x^4\,dx \;=$ _____ .

[V] (6pts) $\left(\underline{\text{Do not forget } + C.}\right)$

(1) $\int \Big(2x + 3\Big)\,dx \;=$

_____ .

(2) $\int \Big(x-2\Big)\Big(x+5\Big)\,dx \;=\; \int \left(\boxed{}\right) dx$

$=$

_____ .

(3) $\int \left(x^5 - \frac{5}{2}x^4 + \frac{5}{3}x^3 - \frac{1}{6}x\right) dx$

$=$

_____ .