Math 105 TOPICS IN MATHEMATICS

QUIZ – XI (In-Class)

April 22 (Wed), 2015

Instructor: Yasuyuki Kachi

Line #: 52920.

ID # : _____   Name : _____

[I] (4pts)   (1) $\dfrac{d}{dx}\, x^3 \;=\;$ _____ .   (2) $\dfrac{d}{dx}\, 6x^5 \;=\;$ _____ .

[II] (4pts)   (1) $\dfrac{d}{dx}\left(4x^4 - 3x^2 - 8\right) \;=\;$ _____ .

(2) $\dfrac{d}{dx}\left(\dfrac{1}{1!}\, x \;+\; \dfrac{1}{3!}\, x^3 \;+\; \dfrac{1}{5!}\, x^5 \;+\; \dfrac{1}{7!}\, x^7\right)$

$=$ _____ .

[III] (4pts) $\displaystyle\int 8x^7\, dx \;=\; x^8 \;+\; C.$

This means

"An antiderivative of ☐ is ☐ " .

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

(1) $\displaystyle\int 3x^2\, dx \ = $ _____ .

(2) $\displaystyle\int x^6\, dx \ = $ _____ .

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

(1) $\displaystyle\int \left(9x + 6\right) dx \ = $

_____ .

(2) $\displaystyle\int \left(x - 4\right)\left(x + 1\right) dx \ = \int \left(\boxed{} \right) dx$

$=$ _____ .

(3) $\displaystyle\int \left(x^6 - 3x^5 + \frac{5}{2}x^4 - \frac{1}{2}x^2 + \frac{1}{42} \right) dx$

$=$ _____ .