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CALCULAS1_final_2013_solution

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#1. $\frac{\pi}{8}-\frac{1}{12}$

#2.

(1) 3

(2) $\frac{34}{9}$

#3. $\frac{16}{3}a^3$

#4.

(1) $\sqrt{2+\frac{1}{\sqrt{t}}+\frac{1}{4t}}$

(2) $\frac{1}{6}[\frac{\sqrt{13}}{2}+4\sqrt{\frac{13+2\sqrt{6}}{6}}+\frac{\sqrt{34+2\sqrt{32}}}{2}]$

#5.

(1) $\frac{3\sec\theta\tan\theta}{1+\tan^3\theta}$

(2) $=\frac{3}{2}$

#6. 거짓

#7.

(1) $f(x)=\sum_{n=0}^{\infty}\frac{(-1)^n(2n)!}{(2n)2^{2n}(n!)^2(2n+1)}x^{2n+1}$

(2) 1

(3) $\frac{\pi}{4}$

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CALCULAS1_final_2014_solution

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#1. $\pi e^{\frac{\pi}{2}}$

#2.

(1) 8

(2) $\frac{3}{2}\pi$

#3. $\frac{3 \pm \sqrt{5}}{2}$

#4.

(1) $p > 1$일 때만 수렴한다.

(2) $p > 0$인 경우만 수렴한다.

#5.

(1) $2\sum_{n=0}^{\infty} \frac{1}{2n+1} x^{2n+1}$

(2) $\frac{1}{2} ln(\frac{618}{616})$ or $\frac{1}{2} ln(\frac{309}{308})$

#6.

(1) $\ln 4 + \frac{3}{4}(x-1) - \frac{9}{32}(x-1)^2 + \frac{9}{64}(x-1)^3$

(2) $\frac{1}{4}$

#7. 6

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CALCULAS1_final_2015_solution

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#1. $4\pi e^3 + 2\pi$

#2.

(1) 8

(2) $\frac{4\pi - 8}{\pi}$

#3.

(1) $y = -\frac{1}{\sqrt{3}}x - \frac{2\sqrt{3}}{3}$

(2) $\frac{\pi}{8} - \frac{1}{4}$

#4.

(1) $\sum_{n=1}^{\infty} b_n$ is convergent, $\sum_{n=1}^{\infty} a_n$ is also convergent

(2) $\ln 2$

#5.

(1) $|x| < 1$, R = 1

(2) $-1 < x < 1$

#6.

(1) $\frac{1}{8}\sum_{n=1}^{\infty} \frac{(-1)^{n-1}(4x)^{2n}}{(2n)!}$, $(-\infty, \infty)$

(2) 4π

#7. $\frac{1}{2} - \frac{1}{3!2^3} + \frac{1}{5!2^5}$

#8. 160