

This print-out should have 6 questions. Multiple-choice questions may continue on the next column or page – find all choices before answering.

CalC8a11b
001 10.0 points

Evaluate the integral

$$I = \int_0^1 4xe^{3x} dx.$$

1. $I = \frac{4}{3}(3e^3 + 1)$
 2. $I = \frac{4}{3}e^3$
 3. $I = \frac{4}{9}e^3$
 4. $I = \frac{4}{9}(3e^3 + 1)$
 5. $I = \frac{4}{3}(2e^3 + 1)$
 6. $I = \frac{4}{9}(2e^3 + 1)$
-

CalC8d10b
002 10.0 points

Evaluate the integral

$$I = \int_3^4 \frac{2}{(x-2)(5-x)} dx.$$

1. $I = 2 \ln(4)$
2. $I = 2 \ln\left(\frac{8}{5}\right)$
3. $I = \frac{1}{2} \ln(4)$
4. $I = \frac{2}{3} \ln\left(\frac{8}{5}\right)$
5. $I = \frac{1}{2} \ln\left(\frac{8}{5}\right)$

$$6. I = \frac{2}{3} \ln(4)$$

CalC12h09s
003 10.0 points

Find the interval of convergence of the series

$$\sum_{n=1}^{\infty} (-1)^n n 5^n x^n.$$

1. $(-1, 1)$
 2. $(-5, 5]$
 3. $\left(-\frac{1}{5}, \frac{1}{5}\right)$
 4. $(-1, 1]$
 5. converges only at $x = 0$
 6. $\left(-\frac{1}{5}, 5\right]$
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CalC12i23s
004 10.0 points

Evaluate the integral

$$f(x) = \int_0^x \frac{s}{1-s^3} ds.$$

as a power series.

1. $f(x) = \sum_{n=0}^{\infty} \frac{(-1)^n x^{3n+2}}{3n+2}$
2. $f(x) = \sum_{n=0}^{\infty} \frac{(-1)^n x^{3n}}{3n}$
3. $f(x) = \sum_{n=0}^{\infty} \frac{x^{3n+2}}{3n+2}$
4. $f(x) = \sum_{n=0}^{\infty} \frac{x^{3n}}{3n}$
5. $f(x) = \sum_{n=3}^{\infty} \frac{x^{3n}}{3n+2}$

CalC16b19a
005 10.0 points

Evaluate the integral

$$I = \int \int_A x e^{3xy} dx dy$$

over the rectangle

$$A = \{ (x, y) : 0 \leq x \leq 1, 0 \leq y \leq 1 \}.$$

1. $I = \frac{1}{9}(e^3 - 3)$

2. $I = \frac{1}{9}(e^3 - 4)$

3. $I = \frac{1}{18}(e^3 - 4)$

4. $I = \frac{1}{18}(e^3 - 2)$

5. $I = \frac{1}{18}(e^3 - 3)$

6. $I = \frac{1}{9}(e^3 - 2)$

CalC16c41s
006 10.0 points

Reverse the order of integration in the integral

$$I = \int_{e^{-\frac{1}{2}}}^2 \left(\int_{-4 \ln y}^2 f(x, y) dx \right) dy,$$

but make no attempt to evaluate either integral.

1. $I = \int_2^{4 \ln 2} \left(\int_{e^{-x/4}}^2 f(x, y) dy \right) dx$

2. $I = \int_{-4 \ln 2}^2 \left(\int_{\ln x/4}^2 f(x, y) dy \right) dx$

3. $I = \int_2^{4 \ln 2} \left(\int_2^{e^{-x/4}} f(x, y) dy \right) dx$

4. $I = \int_{-4 \ln 2}^2 \left(\int_{e^{-x/4}}^2 f(x, y) dy \right) dx$

5. $I = \int_{-4 \ln 2}^2 \left(\int_2^{e^{-x/4}} f(x, y) dy \right) dx$