

Show all work.

Q1. Find P, S, R and its radius of convergence of $f(x) = \ln(16 + x^4)$

Q2. Express the integral as an Infinite Series $\int e^{3x^2} dx$.

(Use other side of paper)

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Quiz7

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Q1. Find P. S. R and its radius of convergence of $x^{-1} \tan^{-1}(4x^2)$

Q2 Express the integral as an Infinite Series $\int \sin(3x^2) dx$

(Use other side of paper)

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Q1. Find 1st 3 non zero terms of $\frac{\tan^{-1} x}{1-x}$ (Find Power Series Representation of $\frac{1}{1-x}$ and $\tan^{-1} x$)

Q2. Find the Taylor's Series of $f(x) = \sin x$ about $a = \frac{\pi}{2}$

(Use other side of paper)

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Q1. . Find the sum of $\sum_{k=1}^{\infty} \frac{(-1)^{k+1}}{k+1}$ by using the Power Series representation of $\ln(1+x)$.

Q2 Find first 3 non zero terms of the Maclaurin's series of $f(x) = \cos(x^2) \sin(x)$

(Use other side of the paper)

Show all work.

Q1. Find the sum of $\sum_{k=0}^{\infty} \frac{(-1)^k}{2k+1} (0.3)^{2k}$ by using the Power Series representation of $\tan^{-1} x$.

Q2 Express the integral as an Infinite Series $\int \cos(2x^3) dx$

(Use other side of the paper)

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Q1. Find the sum of $\sum_{k=0}^{\infty} \frac{(0.2)^k}{k+1}$ by using the Power Series representation of $\frac{1}{1-x}$

Q2 Find the Maclaurin's Series of $\cos(2x - \frac{\pi}{4})$ [Hint: 1st expand $\cos(a - b)$]
(Use other side of the paper)