Name: Std ID: Section:

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QUIZ-2 25-10-2019

Evaluate (any three)

a) Derive reduction formula for $\int sec^n x dx$ and evaluate $\int sec^4 x dx$

b) Show that $cosh^{-1}x = ln\left(x + \sqrt{x^2 - 1}\right)$

c) Evaluate $\int \frac{dx}{sinx+cosx}$ OR $\int \frac{dx}{1+coshx}$

d) Compute $A = \lim_{n\to\infty} \sum_{k=1}^{n} f(x_k)\Delta x$ as a right end-point for curve $f(x) = \frac{x}{2}$, $over$ $[1,4]$

Evaluate (any three)

a) Derive reduction formula for $\int cosec^n x dx$ and evaluate $\int cosec^4 x dx$

b) Show that $\frac{d}{dx} tanh^{-1}x = \frac{1}{1-x^2}$

c) Evaluate $\int \frac{dx}{5+4cosx}$ OR $\int \frac{dx}{\sqrt{1-e^{2x}}}$

d) Compute $A = \lim_{n\to\infty} \sum_{k=1}^{n} f(x_k)\Delta x$ as a right end-point for curve $f(x) = 5 - x$, $over$ $[0,5]$

Evaluate (any three)

a) Compute $A = \lim_{n\to\infty} \sum_{k=1}^{n} f(x_k)\Delta x$ as a left end-point for curve $f(x) = \frac{x}{2}$, $over$ $[1,4]$

b) Derive reduction formula for $\int sin^n x dx$ and evaluate $\int sin^4 x dx$

c) Show that $cosh^{-1}x = ln\left(x + \sqrt{x^2 - 1}\right)$

d) Evaluate $\int \frac{dx}{sinhx+2coshx}$ OR $\int \frac{sinx\, dx}{sinx+tanx}$