

Calculus AB

5-2

ln(x): Integration

Integration of $f(x) = \frac{1}{x}$: $\int \frac{1}{x} dx =$

Find the indefinite integral. (pg 340)

2) $\int \frac{10}{x} dx$

*) $\int \frac{x}{x^2 + 1} dx$

16) $\int \frac{2x^2 + 7x - 3}{x - 2} dx$

24) $\int \frac{1}{x^{\frac{2}{3}}(1 + x^{\frac{1}{3}})} dx$

Assignment: pg 330 Day 1 2-29 odd

Integration of Trigonometric Functions

$$\int \sin x dx = \underline{\hspace{2cm}}$$

$$\int \cos x dx = \underline{\hspace{2cm}}$$

$$\int \tan x dx = \underline{\hspace{2cm}}$$

$$\int \sec x dx = \underline{\hspace{2cm}}$$

Integration of Trigonometric Functions

$$\int \sin x \, dx = \underline{\hspace{2cm}}$$

$$\int \cos x \, dx = \underline{\hspace{2cm}}$$

$$\int \tan x \, dx = \underline{\hspace{2cm}}$$

$$\int \sec x \, dx = \underline{\hspace{2cm}}$$

$$\int \csc x \, dx = \underline{\hspace{2cm}}$$

$$\int \cot x \, dx = \underline{\hspace{2cm}}$$

Find the indefinite integral.

34) $\int \sec\left(\frac{x}{2}\right) dx =$

Solve the differential equation.

44) $\frac{dy}{dx} = \frac{2x}{x^2 - 9} ; (0, 4)$

Evaluate the definite integral. Check using the graphing calculator.

54) $\int_{-1}^1 \frac{1}{2x+3} dx =$

Find $f'(x)$.

68) $f(x) = \int_0^x \tan t \, dt$

Find the average value of the function over the interval.

*) $f(x) = \frac{\ln x}{x} ; [1, e]$

Assignment:

Day 2

pg 330

31-59 odd

67, 69,

73-83 odd.