

$$3 \ln x + 5 \ln y - 7 \ln z$$

$$\ln \frac{x^3 \cdot y^5}{z^7}$$

$$\ln \sqrt[3]{x^3 + 4}$$

$$\ln (x^3 + 4)^{1/3}$$

$$\frac{1}{3} \ln(x^3 + 4)$$

$$\frac{1}{3} \cdot 3x^2 \cdot \frac{1}{x^3 + 4}$$

$$u = x^3 + 4$$

$$du = 3x^2$$

$$y = \ln|u|$$

$$dy = \frac{1}{u}$$

$$\int 7 \tan(5x) dx \quad \Rightarrow \quad -\frac{1}{5} \int \frac{1}{u} du$$
$$\int \frac{\sin(5x)}{\cos(5x)} dx \quad \Rightarrow \quad -\frac{1}{5} \ln|\cos(5x)| + C$$

$$u = \cos(5x)$$
$$du = -5 \sin(5x)$$

$$u = c_0$$

$$du = 2$$

$$\frac{dy}{dx} = x\sqrt{4-x^2} \quad (2.2)$$

$$\int dy = \int x(4-x^2)^{1/2} dx$$

$$u = 4 - x^2$$

$$du = -2x dx$$

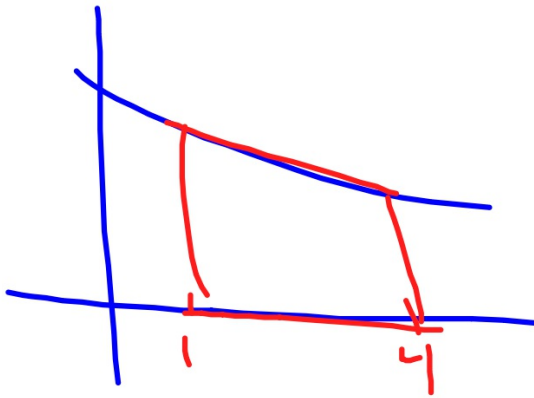
$$y = -\frac{1}{2} \int u^{1/2} du$$

$$87. \int \frac{e^{\sqrt{x}}}{\sqrt{x}} dx$$

$$u = \sqrt{x}$$

$$du = \frac{1}{2} x^{-1/2} dx$$

$$2 \int e^u du$$



$$y=0, x=1, x=4$$

.

S.S log

WCID? I can work with logs

A. $2^3 = 8$ $\log_2 8 = 3$

Ex. $\log_2 10$

$$1. a^{\log_a x} = x$$

$$2. \log_a a^x = x$$

$$x \log_a a$$

$$\text{Ex. } \log_2 x = -4$$

$$x = 2^{-4}$$

$$x = \frac{1}{16}$$

$$\text{Ex. } \ln 3^x = \ln \frac{1}{81}$$

$$x \ln 3 = \ln \left(\frac{1}{81} \right)$$

$$x = \frac{\ln \frac{1}{81}}{\ln 3}$$

$$x = -4$$

$$3^x = 3^{-4}$$

$$x = -4$$

$$\text{Ex. } \ln 5^{6x} = \ln 8320$$

$$\frac{6x \ln 5}{6 \ln 5} = \frac{\ln 8320}{6 \ln 5}$$

$$x \approx .935$$

B $A = P e^{rt}$ Continuous

$A = P \left(1 + \frac{r}{n}\right)^{nt}$ Not Continuous

Ex. 31 years

.75

7% each year

$$A = .75 \left(1 + \frac{.07}{1} \right)^{(1)(31)}$$

P. 366

15-29 odd, 31-34

82, 84

86, 87