

Each problem is worth 5 points. Clear and complete justification is required for full credit.

1. Find an antiderivative of $p(t) = \cos t + \frac{1}{\cos^2 t}$.

In addition I just find an antiderivative of each part.

$$P(t) = \sin t + \tan t$$

Excellent

$$P(t) = \frac{\sin t}{\cos t} \quad \text{Quotient Rule}$$

$$P'(t) = \frac{\cos t \cdot \cos t - \sin t \cdot -\sin t}{\cos^2 t}$$

$$P'(t) = \frac{(\cos^2 t + \sin^2 t)}{\cos^2 t} \text{ this equals One}$$

2. Find the indefinite integral $\int \left(x + \frac{1}{\sqrt{x}} \right) dx. + C$

$$\frac{x^2}{2} + \frac{x^{1/2}}{1/2} + C$$

$$\frac{x^2}{2} + 2x^{1/2} + C$$

Great

$$\frac{x^{n+1}}{n+1}$$

$\frac{1}{\sqrt{x}}$ also equals $x^{-1/2}$

indefinite means to add C

I can simplify $\frac{x^{1/2}}{1/2}$
making it $2x^{1/2}$