

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

1. Evaluate  $\int_0^{\pi/2} \sin t \, dt$ .

$$f'(t) = \sin t$$

$$f(t) = \underline{-\cos t}$$

$$\int_0^{\pi/2} \sin t = \underline{-\cos t} \Big|_0^{\pi/2} = \underline{-\overset{0}{\cos \frac{\pi}{2}} + \overset{1}{\cos 0}}$$
$$= \underline{\underline{1}}$$

Excellent

2. Evaluate  $\int_1^3 \frac{1}{x} \, dx = \ln|x| \Big|_1^3 = \ln 3 - \ln 1$

$$= \ln 3$$