

1. Evaluate the line integral for $\vec{F} = (x - y)\vec{i} + y\vec{j}$ using your assigned curve below:

A. $x = 3t + 1$

$$y = t + 1$$

$$0 \leq t \leq 1$$

B. $x = 3 \sin t + 1$

$$y = \sin t + 1$$

$$0 \leq t \leq \frac{\pi}{2}$$

C. $x = 3 \tan t + 1$

$$y = \tan t + 1$$

$$0 \leq t \leq \frac{\pi}{4}$$

D. $x = 3 \sinh t + 1$

$$y = \sinh t + 1$$

$$0 \leq t \leq \sinh^{-1}(1)$$

E. $x = 3\sqrt{1+t} - 2$

$$y = \sqrt{1+t}$$

$$0 \leq t \leq 3$$

F. $x = 3 \ln t + 1$

$$y = \ln t + 1$$

$$1 \leq t \leq e$$

G. $x = \frac{-3}{t} - 2$

$$y = \frac{-1}{t}$$

$$-1 \leq t \leq \frac{-1}{2}$$

2. Evaluate the line integral for $\vec{F} = (x^2 + y^2)\vec{i} + 2xy\vec{j}$ using your assigned curve below.

