

Test 2

1.A

$$\begin{aligned}\vec{P} &= [x(t) + x_0] \hat{i} + [y(t) + y_0] \hat{j} \\ \vec{P} &= \left[\int x'(t) dt + x_0 \right] \hat{i} + \left[\int y'(t) dt + y_0 \right] \hat{j} \\ \vec{P} &= \left[\frac{1}{(t+1)^2} + 1 \right] \hat{i} + [\tanh(t)] \hat{j}\end{aligned}$$

1.C

The point never stops moving, as the velocity in the x direction, given by $x'(t)$ can never equal 0, as shown below

$$\begin{aligned}0 &= -\frac{2}{(t+1)^2} \\ 0 * (t+1)^2 &= -(t+1)^2 * \frac{2}{(t+1)^2} \\ 0 &= -2\end{aligned}$$

1.D

oof

1.D