Grafik Fungsi Vektor

$\left(\frac{x}{a}\right)^2 + \left(\frac{y}{a}\right)^2 = 1 \Leftarrow x^2 + y^2 = a^2$ ling

$x^2 + y^2 = a$ parabola

$\left(\frac{x}{a}\right)^2 + \left(\frac{y}{b}\right)^2 = 1$ ellips

$F(t) = \underbrace{(t-4)}_{x}\hat{i} + \underbrace{\sqrt{t}}_{y}\hat{j}$; $0 \le t \le 4$

0 1 2 3 4

persamaan parameter:

$x = t-4 \rightarrow t = x+4$

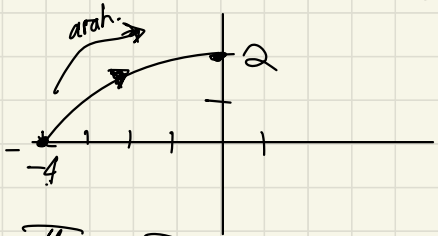
$y = \sqrt{t} \rightarrow y = \sqrt{x+4} \Rightarrow y^2 = x+4$ (parabola)

Arahnya:

$f(0) = -4i = (-4, 0)$ (x, y)

$f(2) = -2i + \sqrt{2}j = (-2, \sqrt{2})$

$f(4) = 2j = (0, 2)$



0 π 2π

$F(t) = 3\cos t\,\hat{i} + 2\sin t\,\hat{j}$; $0 \le t \le 2\pi$

$\cos^2 t + \sin^2 t = 1$

pers. par.

$x = 3\cos t \Rightarrow \frac{x}{3} = \cos t \Rightarrow \left(\frac{x}{3}\right)^2 = \cos^2 t$

$y = 2\sin t \Rightarrow \frac{y}{2} = \sin t \Rightarrow \left(\frac{y}{2}\right)^2 = \sin^2 t$

$\left(\frac{x}{3}\right)^2 + \left(\frac{y}{2}\right)^2 = 1$ = ellips

$+$

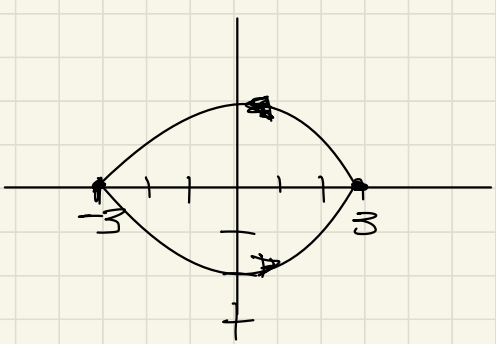
$\cos^2 t + \sin^2 t = 1$

Arahnya:

$f(0) = 3i = (3, 0)$ (x, y)

$f(\pi) = -3i = (-3, 0)$

$f(2\pi) = 3i = (3, 0)$



(ingat satuan $\pi = 180^\circ$)

$\cos 0 = 1$
$\sin 0 = 0$

$\cos 180^\circ = -1$
$\sin 180^\circ = 0$

$\cos 2\pi = 1$
$\sin 2\pi = 0$