

Lissajouskromme

13. Snijpunten x-as: $y(t) = 0 \rightarrow \sin(2t + \frac{1}{3}\pi) = 0 \rightarrow 2t + \frac{1}{3}\pi = k \cdot \pi$
 $t = (\frac{1}{2}k - \frac{1}{6})\pi$, dus $t \in \{-\frac{1}{6}\pi, \frac{1}{3}\pi, \frac{5}{6}\pi, \frac{4}{3}\pi\}$
Coördinaten: $(-\frac{1}{2}, 0)$, $(\frac{1}{2}\sqrt{3}, 0)$, $(\frac{1}{2}, 0)$ en $(-\frac{1}{2}\sqrt{3}, 0)$

14. $v(0) = \sqrt{(x'(0))^2 + (y'(0))^2}$

$$\frac{dx}{dt} = \cos t, \quad \frac{dy}{dt} = 2 \cdot \cos(2t + \frac{1}{3}\pi) \quad v(0) = \sqrt{1 + 1} = \sqrt{2}$$