k = 16,9 км
4,7*Vл = Vк

k - x; k + x
(k-x)/Vk=x/Vл (k+x)/Vk=x/Vл
(Vk-1)x=k
(Vk+1)x=k
(Vk +- 1) x = k
(4,7+-1)x = 16,9
x1, x2 = 16,9/(4,7 +- 1)

==========

Vr = dr/dt = Vл
Vt=r(dθ/dt)

Vt = $\sqrt{(4{,}7V_L)^2 - (V_L)^2} = \sqrt{21{,}09}\,V_L$

{ Vл = dr/dt
{r(dθ/dt)= $\sqrt{21{,}09}\,V_L$

$$d\theta = \frac{\sqrt{21{,}09}}{r}dr$$

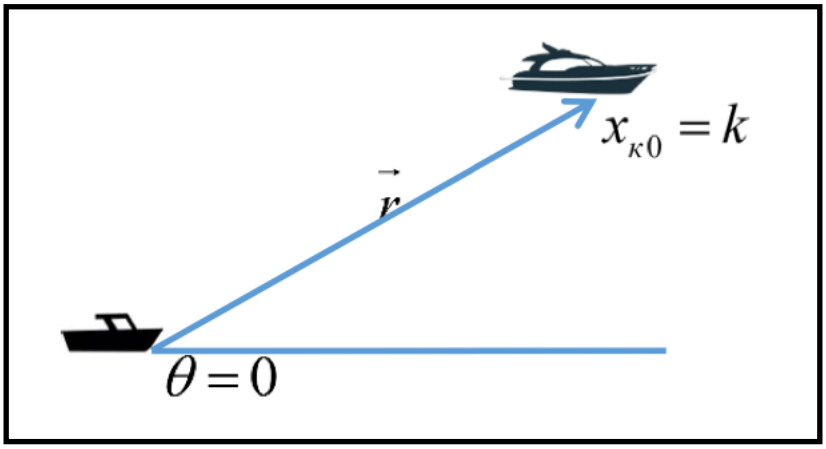
$$\theta = \int \frac{\sqrt{21{,}09}}{r}dr$$

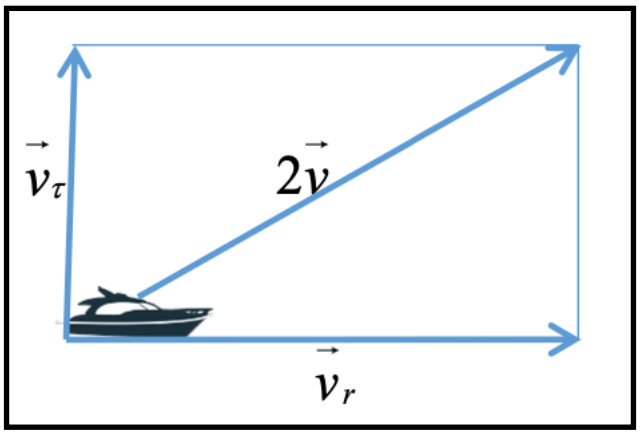
$$\theta = \sqrt{21{,}09} \cdot ln(r) + C$$

==========

θ = direction = 7Pi/4
ln(r) = θ - C/$\sqrt{21{,}09}$

$$r = e^{\frac{\theta - c}{\sqrt{21{,}09}}}$$


$x_{к0} = k$
$\vec{r}$
$\theta = 0$


$\vec{v}_\tau$
$2\vec{v}$
$\vec{v}_r$