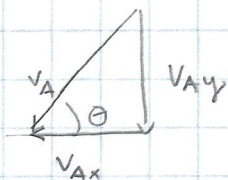# 20-P-KM-AF-028

Relative Motion: Begginner

Q: If car A moves with an acceleration $[A a_t + B a_n] [n/s]$
with $\theta = C°$. Car B moves a velocity of D m/s.
What is the relative velocity from car B's perspective?
and a radius of E m.

A: $a_n = \dfrac{v^2}{e}$

$\sqrt{a_n \cdot e} = v = \sqrt{B \cdot E} = v_A$

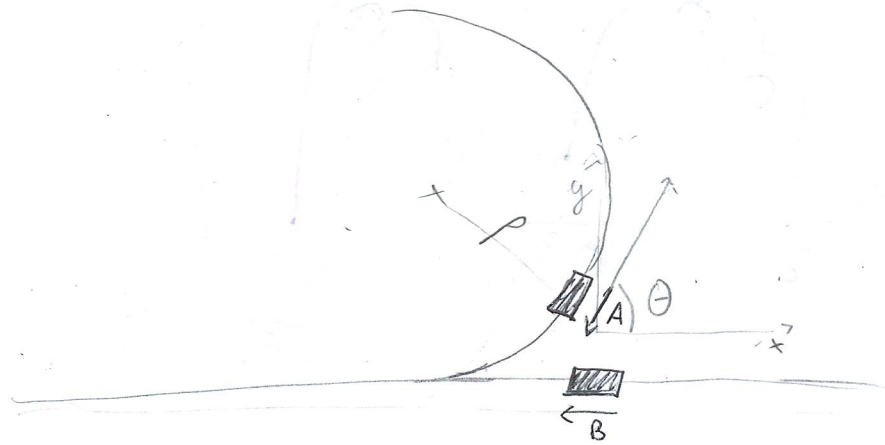$v_{Ay} = \sin(\theta) \cdot v_A$

$v_{Ax} = \cos(\theta) \cdot v_A$

check math!

$v_A = v_B + v_{A/B}$

$[v_{Ax} i + v_{Ay} j] = [D i + 0 j] + v_{A/B}$

$[(v_{Ax} - D) i + v_{Ay} j] = v_{A/B}$

20-P-KM-AF-028

20-P-KM-AF-027