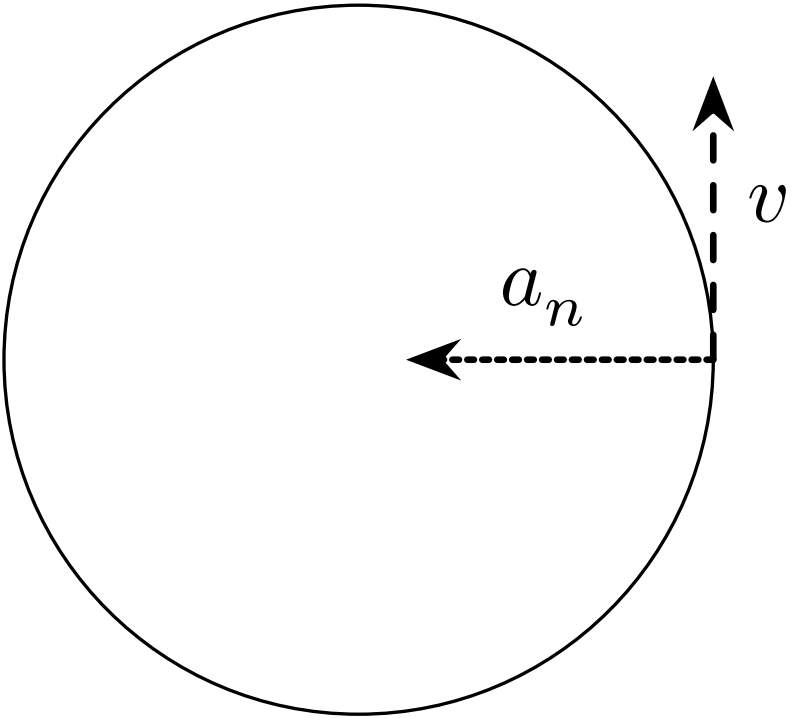


$$r \cdot v = 0,\, r \cdot a = -|v|^2$$