

currently,

~~PHI~~ $\phi = \arctan\left(\frac{\text{NUM}}{X'}\right)$

if ($\phi < 0$) $\phi = \phi + \pi$

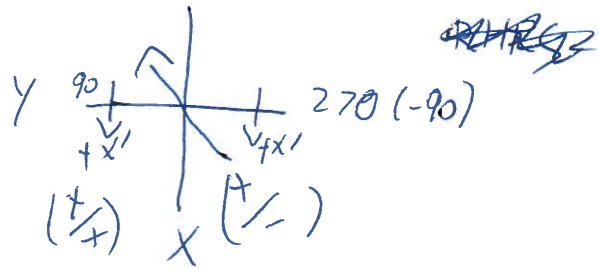
~~IF $\sin(\phi_0) < 0$~~

if ($\sin(\phi_0) < 0$) $\phi = \phi + \pi$ RHRS

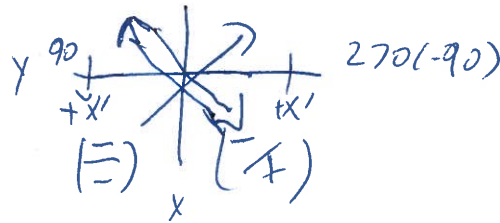
ASSUMPTION

(NUM > 0 LHRS
 NUM < 0 RHRS)

LHRS

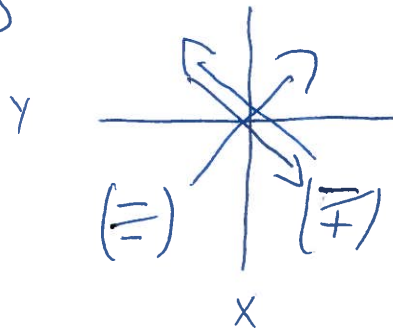


RHRS

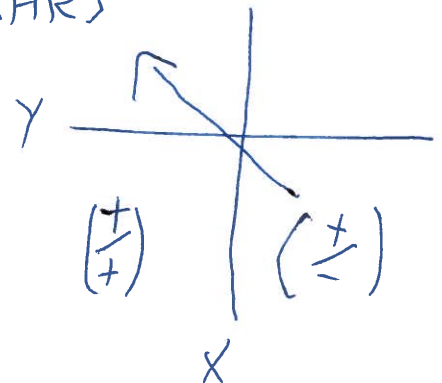


Remove numerator assumption:

LHRS



RHRS



$$\phi = \text{atan} \left(\frac{\text{NUM}}{X'} \right)$$

if ($X' > 0$)

if ($\text{NUM} \geq 0$) do nothing

if ($\text{NUM} < 0$) $\phi = \phi + 2\pi$

if ($X' < 0$)

$$\phi = \phi + \pi$$