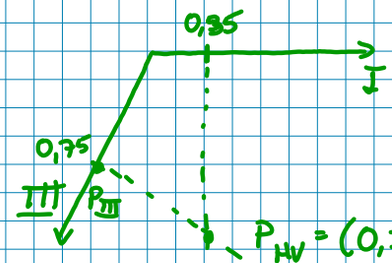
EX 5.6.1: $\vec{I} = 0{,}35$ $\vec{III} = 0{,}75$

BOGENS METODE



$$P_{III} = 0{,}75 \begin{pmatrix} \cos 240 \\ \sin 240 \end{pmatrix} = \begin{pmatrix} -0{,}375 \\ -0{,}6495 \end{pmatrix}$$

$$s_{III} = \frac{\sin 240}{\cos 240}$$

$$s'_{III} = -\frac{1}{s_{III}} = -\frac{\cos 240}{\sin 240} = -0{,}5774$$

$$s'_{III} = \frac{(P_{HV,y} - P_{III,y})}{(P_{HV,x} - P_{III,x})}$$

$$P_{HV,y} = s'_{III}\,(P_{HV,x} - P_{III,x}) + P_{III,y}$$

$$= -1{,}0681$$

$$\angle\vec{HV} = \arctan\left(\frac{-1{,}0681}{0{,}35}\right) = -71{,}86°$$

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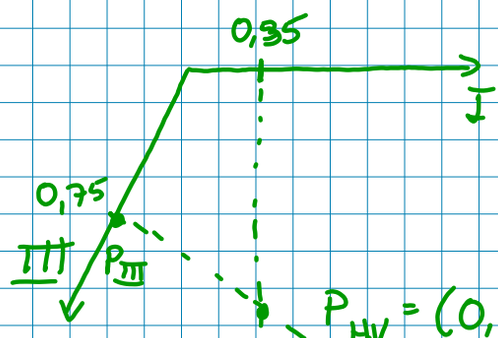
BOGENS METODE



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VEKTOR-METODEN

$$\vec{I} = \begin{pmatrix} 1 \\ 0 \end{pmatrix} \qquad \vec{III} = \begin{pmatrix} \cos 240 \\ \sin 240 \end{pmatrix}$$

$$\vec{HV} = \begin{pmatrix} x \\ y \end{pmatrix}$$

DA I OG III ER ENHETSVEKTORER

$$\vec{HV} \cdot \vec{I} = 0{,}35 \qquad (1)$$
$$\vec{HV} \cdot III = 0{,}75 \qquad (2)$$

FRA (1)

$$x \cdot 1 + y \cdot 0 = 0{,}35 \iff x = 0{,}35$$

FRA (2)

$$x \cdot \cos 240 + y \sin 240 = 0{,}75 \iff$$

$$y = \frac{0{,}75 - x \cdot \cos 240}{\sin 240} = -1{,}0681$$

$$\angle \vec{HV} = \arctan \frac{-1{,}0681}{0{,}35} = -71.86^\circ$$