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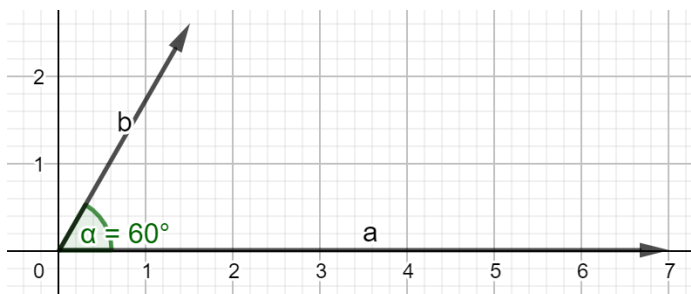
### Opgave 459

$$|\vec{a}| = 7$$

$$|\vec{b}| = 3$$

$$v = 60$$

$$\vec{a} = \begin{pmatrix} 7 \\ 0 \end{pmatrix}$$



$$\vec{b} = \begin{pmatrix} \cos(v) \cdot 3 \\ \sin(v) \cdot 3 \end{pmatrix}$$

$$\vec{b} = \begin{pmatrix} \cos(60) \cdot 3 \\ \sin(60) \cdot 3 \end{pmatrix}$$

$$\vec{b} = \begin{pmatrix} 0.5 \cdot 3 \\ 0.866 \cdot 3 \end{pmatrix}$$

$$\vec{b} = \begin{pmatrix} 1.5 \\ 2.598 \end{pmatrix}$$

$$\vec{a} \cdot \vec{b} = x_a \cdot x_b + y_a \cdot y_b$$

$$\vec{a} \cdot \vec{b} = 1.5 \cdot 7 + 2.598 \cdot 0$$

$$\vec{a} \cdot \vec{b} = 10.5$$

$$\left| \overrightarrow{V_{\frac{b}{a}}} \right| = \frac{\vec{b} \cdot \vec{a}}{|\vec{a}|}$$

$$\left| \overrightarrow{V_{\frac{b}{a}}} \right| = \frac{10.5}{7}$$

$$\left| \overrightarrow{V_{\frac{b}{a}}} \right| = 1.5$$

$$\left| \overrightarrow{V_{\frac{a}{b}}} \right| = \frac{\vec{a} \cdot \vec{b}}{|\vec{b}|}$$

$$\left| \overrightarrow{V_{\frac{a}{b}}} \right| = \frac{10.5}{3}$$

$$\left| \overrightarrow{V_{\frac{a}{b}}} \right| = 3.5$$

$$\vec{c} = \vec{a} - \vec{b}$$

$$\vec{c} = \begin{pmatrix} 7 \\ 0 \end{pmatrix} - \begin{pmatrix} 1.5 \\ 2.598 \end{pmatrix}$$

$$\vec{c} = \begin{pmatrix} 7 - 1.5 \\ 0 - 2.598 \end{pmatrix}$$

$$\vec{c} = \begin{pmatrix} 5.5 \\ -2.598 \end{pmatrix}$$

$$\left| \overrightarrow{V_{\frac{c}{a}}} \right| = \frac{\vec{a} \cdot \vec{c}}{|\vec{a}|}$$

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$$\left| \overrightarrow{V_c} \right| = \frac{7 \cdot 5.5 + 0 \cdot (-2.598)}{7}$$

$$\left| \overrightarrow{V_c} \right| = \frac{38.5}{7}$$

$$\left| \overrightarrow{V_c} \right| = 5.5$$

$$\left| \overrightarrow{V_c} \right| = \frac{\vec{b} \cdot \vec{c}}{|\vec{b}|}$$

$$\left| \overrightarrow{V_c} \right| = \frac{1.5 \cdot 5.5 + 2.598 \cdot (-2.598)}{3}$$

$$\left| \overrightarrow{V_c} \right| = \frac{1.5}{3}$$

$$\left| \overrightarrow{V_c} \right| = 0.5$$