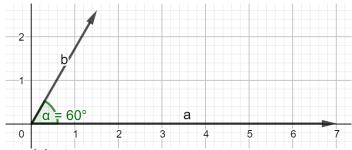
Navn:		Skole:	
Klasse: 20		Dato: 21. september 2021	Fag: Matematik A

## Opgave 459

$$|\vec{a}| = 7$$
$$|\vec{b}| = 3$$
$$v = 60$$

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



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

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

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

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

$$\vec{a} \cdot \vec{b} = x_a \cdot x_b + y_a \cdot y_b$$
$$\vec{a} \cdot \vec{b} = 1.5 \cdot 7 + 2.598 \cdot 0$$
$$\vec{a} \cdot \vec{b} = 10.5$$

$$\begin{vmatrix} \overrightarrow{V_{\frac{b}{a}}} &= \frac{\overrightarrow{b} \cdot \overrightarrow{a}}{|\overrightarrow{a}|} \\ \begin{vmatrix} \overrightarrow{V_{\frac{b}{a}}} &= \frac{10.5}{7} \\ \end{vmatrix} \overrightarrow{V_{\frac{b}{a}}} = 1.5$$

$$\begin{vmatrix} \overrightarrow{V_{a}} & | & = \frac{\overrightarrow{a} \cdot \overrightarrow{b}}{|\overrightarrow{b}|} \\ |\overrightarrow{V_{a}}| & | & = \frac{10.5}{3} \\ |\overrightarrow{V_{a}}| & | & = 3.5 \end{vmatrix}$$

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

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

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

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

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

Navn:		Skole:	
Klasse: 20		Dato: 21. september 2021	Fag: Matematik A

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

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

$$\left| \overrightarrow{V_{c}} \right| = 5.5$$

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

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

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

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

$$\left| \overrightarrow{V_{c}} \right| = 0.5$$