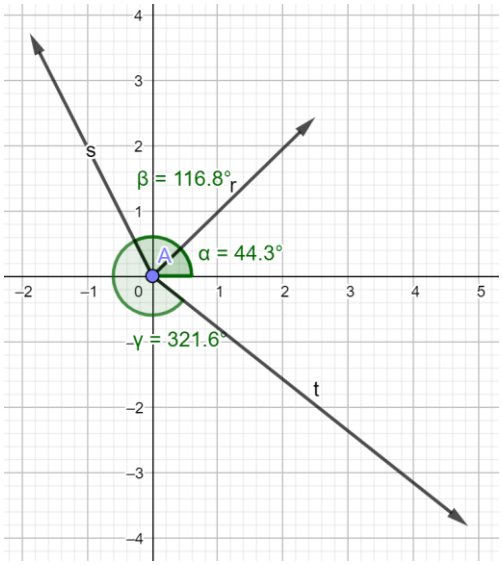
| | Navn: | | Skole: | |
|---|---|---|---|---|
| | Klasse:<br>20 | | Dato: 10. september 2021 | Fag: Matematik A |

# Opgave 440

$$|\vec{r}| = 3.48$$
$$|\vec{s}| = 4.16$$
$$|\vec{t}| = 6.16$$

$$v_r = 44.3$$
$$v_s = 116.8$$
$$v_t = 321.6$$




$$\overrightarrow{v_x} = \begin{pmatrix} \cos(v_x) \cdot |\overrightarrow{v_x}| \\ \sin(v_x) \cdot |\overrightarrow{v_x}| \end{pmatrix}$$

$$\vec{r} = \begin{pmatrix} \cos(44.3) \cdot 3.48 \\ \sin(44.3) \cdot 3.48 \end{pmatrix}$$
$$\vec{r} = \begin{pmatrix} 2{,}49 \\ 2{,}43 \end{pmatrix}$$

$$\vec{s} = \begin{pmatrix} \cos(116.8) \cdot 4.16 \\ \sin(116.8) \cdot 4.16 \end{pmatrix}$$
$$\vec{s} = \begin{pmatrix} -1{,}87 \\ 3{,}71 \end{pmatrix}$$

$$\vec{t} = \begin{pmatrix} \cos(321.6) \cdot 6.16 \\ \sin(321.6) \cdot 6.16 \end{pmatrix}$$
$$\vec{t} = \begin{pmatrix} 4{,}82 \\ -3{,}82 \end{pmatrix}$$

$$\overrightarrow{V_{sum}} = \vec{r} - \vec{s} + \vec{t}$$
$$\overrightarrow{V_{sum}} = \begin{pmatrix} 2.49 \\ 2.43 \end{pmatrix} - \begin{pmatrix} -1.87 \\ 3.71 \end{pmatrix} + \begin{pmatrix} 4.82 \\ -3.82 \end{pmatrix}$$
$$\overrightarrow{V_{sum}} = \begin{pmatrix} 2.49 + 1.87 + 4.82 \\ 2.43 - 3.71 - 3.82 \end{pmatrix}$$
$$\overrightarrow{V_{sum}} \begin{pmatrix} 9{,}18 \\ -5{,}1 \end{pmatrix}$$

$$|\overrightarrow{V_{sum}}| = \sqrt{x^2 + y^2}$$
$$|\overrightarrow{V_{sum}}| = \sqrt{9.18^2 + (-5.1)^2}$$
$$|\overrightarrow{V_{sum}}| = \sqrt{110.28}$$
$$|\overrightarrow{V_{sum}}| = 10.52$$

$$\angle\overrightarrow{V_{sum}} = 360 + \tan^{-1}\left(\frac{-5.1}{9.18}\right)$$
$$\angle\overrightarrow{V_{sum}} = 330{,}9454$$