

	Navn:		Skole:	
	Klasse: 20		Dato: 10. september 2021	Fag: Matematik A

## Opgave 440

$$|\vec{r}| = 3.48$$

$$|\vec{s}| = 4.16$$

$$|\vec{t}| = 6.16$$

$$v_r = 44.3$$

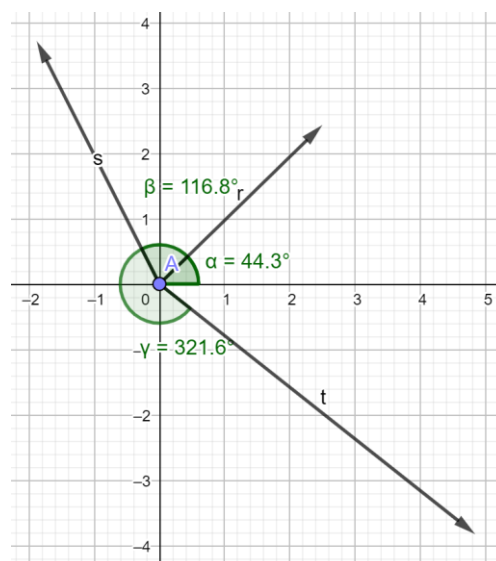
$$v_s = 116.8$$

$$v_t = 321.6$$

$$\vec{v}_x = \begin{pmatrix} \cos(v_x) \cdot |\vec{v}_x| \\ \sin(v_x) \cdot |\vec{v}_x| \end{pmatrix}$$

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

$$\vec{r} = \begin{pmatrix} 2.49 \\ 2.43 \end{pmatrix}$$



$$\vec{s} = \begin{pmatrix} \cos(116.8) \cdot 4.16 \\ \sin(116.8) \cdot 4.16 \end{pmatrix}$$

$$\vec{s} = \begin{pmatrix} -1.87 \\ 3.71 \end{pmatrix}$$

$$\vec{t} = \begin{pmatrix} \cos(321.6) \cdot 6.16 \\ \sin(321.6) \cdot 6.16 \end{pmatrix}$$

$$\vec{t} = \begin{pmatrix} 4.82 \\ -3.82 \end{pmatrix}$$

$$\vec{V}_{sum} = \vec{r} - \vec{s} + \vec{t}$$

$$\vec{V}_{sum} = \begin{pmatrix} 2.49 \\ 2.43 \end{pmatrix} - \begin{pmatrix} -1.87 \\ 3.71 \end{pmatrix} + \begin{pmatrix} 4.82 \\ -3.82 \end{pmatrix}$$

$$\vec{V}_{sum} = \begin{pmatrix} 2.49 + 1.87 + 4.82 \\ 2.43 - 3.71 - 3.82 \end{pmatrix}$$

$$\vec{V}_{sum} = \begin{pmatrix} 9.18 \\ -5.1 \end{pmatrix}$$

$$|\vec{V}_{sum}| = \sqrt{x^2 + y^2}$$

$$|\vec{V}_{sum}| = \sqrt{9.18^2 + (-5.1)^2}$$

$$|\vec{V}_{sum}| = \sqrt{110.28}$$

$$|\vec{V}_{sum}| = 10.52$$

$$\angle \vec{V}_{sum} = 360 + \tan^{-1}\left(\frac{-5.1}{9.18}\right)$$

$$\angle \vec{V}_{sum} = 330.9454$$