	Navn:		Skole:	
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Opgave 437

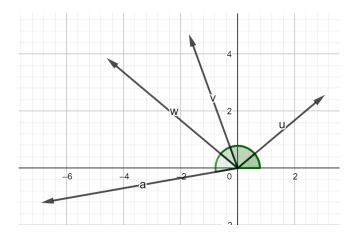
$$x = l \cdot \cos(v)$$
$$y = l \cdot \sin(v)$$
$$\vec{V} = {x \choose y}$$

$$x_a = 4 \cdot \cos(40) \approx 3,064178$$

 $y_a = 4 \cdot \sin(40) \approx 2,57115$
 $\overrightarrow{V_a} = {3.064 \choose 2.571}$

$$x_b = 5 \cdot \cos(110) \approx -1,710101$$

 $y_b = 5 \cdot \sin(110) \approx 4,698463$
 $\overrightarrow{V_b} = \begin{pmatrix} -1.170 \\ 4.698 \end{pmatrix}$



$$x_c = 6 \cdot \cos(140) \approx -4,596267$$

$$y_c = 6 \cdot \sin(140) \approx 3,856726$$

$$\overrightarrow{V_c} = \begin{pmatrix} -4.596 \\ 3.857 \end{pmatrix}$$

$$x_d = 7 \cdot \cos(190) \approx -6,893654$$

$$y_d = 7 \cdot \sin(190) \approx -1,215537$$

$$\overrightarrow{V_d} = \begin{pmatrix} -6.893 \\ -1.216 \end{pmatrix}$$

$$\overrightarrow{V_{sum}} = \overrightarrow{V_a} + \overrightarrow{V_b} + \overrightarrow{V_c} + \overrightarrow{V_d}
\overrightarrow{V_{sum}} = {3.064 \choose 2.571} + {-1.170 \choose 4.698} + {-4.596 \choose 3.857} + {-6.893 \choose -1.216} \approx {-10.14 \choose 9.91}$$

$$|\overrightarrow{V_{sum}}| = \sqrt{V_{sum_x}^2 + V_{sum_y}^2}$$

 $|\overrightarrow{V_{sum}}| = \sqrt{(-10.14)^2 + 9.91^2} \approx 14,17842$

$$\angle \overrightarrow{V_{sum}} = \tan^{-1}\left(\frac{9.91}{-10.14}\right) + 180 = 135,6572$$