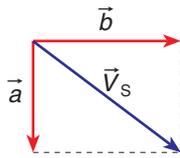
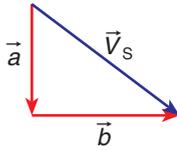


P.133



ou

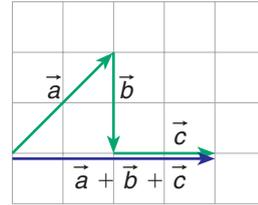
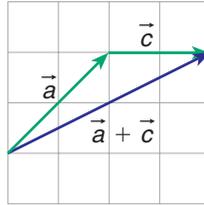
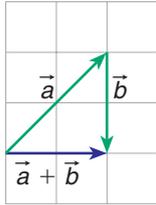


$$V_s^2 = a^2 + b^2$$

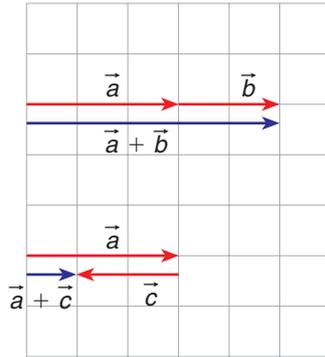
$$V_s^2 = 6^2 + 8^2$$

$$V_s = 10$$

P.134



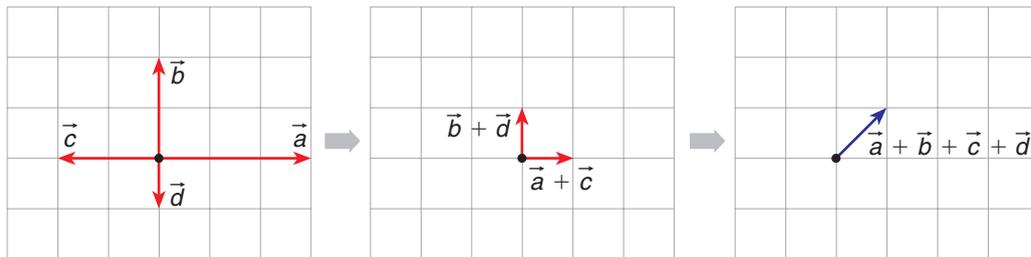
P.135



$$|\vec{a} + \vec{b}| = 5$$

$$|\vec{a} + \vec{c}| = 1$$

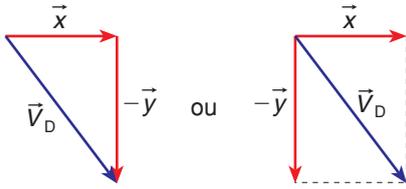
P.136



$|\vec{a} + \vec{b} + \vec{c} + \vec{d}|$ é igual à diagonal de um quadradinho de lado uma unidade. Logo:

$$|\vec{a} + \vec{b} + \vec{c} + \vec{d}| = \sqrt{2} \text{ unidades}$$

P.137



$$V_D^2 = x^2 + y^2$$

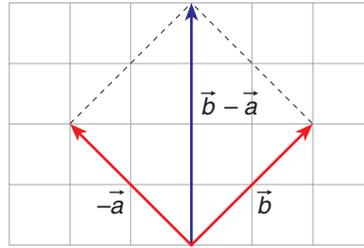
$$V_D^2 = 3^2 + 4^2$$

$$V_D = 5$$

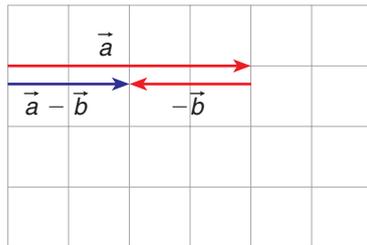
P.138

Para obter o vetor diferença $(\vec{b} - \vec{a})$ soma-se \vec{b} com o oposto de \vec{a} . O vetor diferença terá módulo:

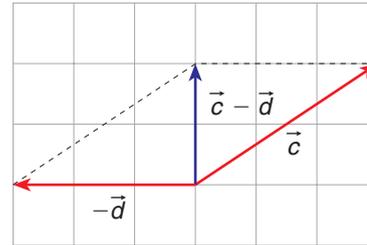
$$|\vec{b} - \vec{a}| = 4$$



P.139

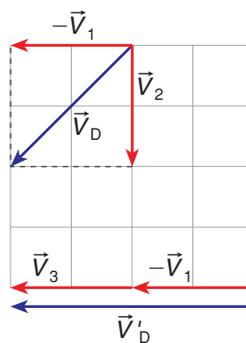


$$|\vec{a} - \vec{b}| = 2$$

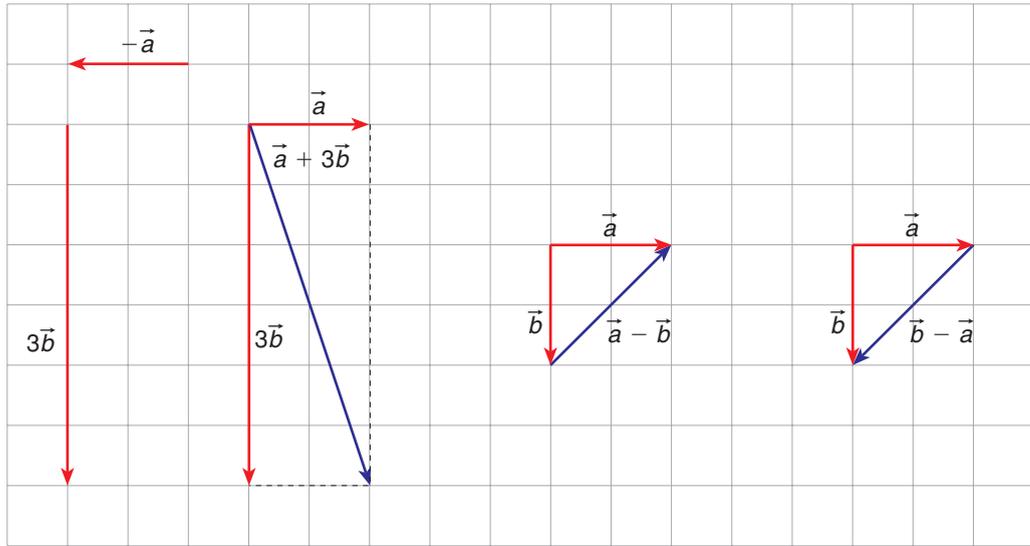


$$|\vec{c} - \vec{d}| = 2$$

P.140



P.141

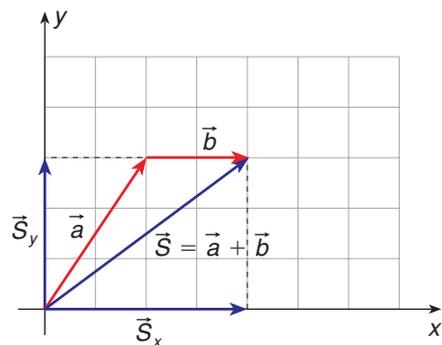
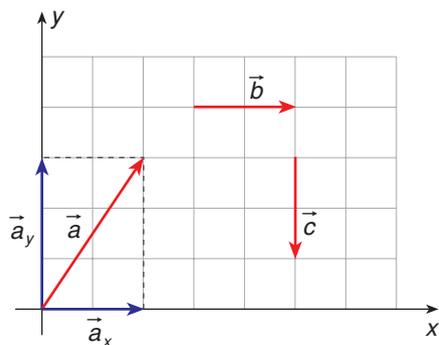


P.142 \vec{a} tem a mesma direção e o mesmo sentido de \vec{j} e módulo três vezes maior: $\vec{a} = 3\vec{j}$
 \vec{b} tem a mesma direção e o mesmo sentido de \vec{i} e módulo duas vezes maior: $\vec{b} = 2\vec{i}$
 \vec{c} tem a mesma direção de \vec{i} , sentido oposto e módulo duas vezes maior: $\vec{c} = -2\vec{i}$
 \vec{d} tem a mesma direção de \vec{j} , sentido oposto e módulo duas vezes maior: $\vec{d} = -2\vec{j}$

P.143 $v_x = v \cdot \cos 60^\circ \Rightarrow v_x = 50 \cdot 0,500 \Rightarrow v_x = 25 \text{ m/s}$

$v_y = v \cdot \sin 60^\circ \Rightarrow v_y = 50 \cdot 0,866 \Rightarrow v_y = 43,3 \text{ m/s}$

P.144



$a_x = 2$

$b_x = 2$

$c_x = 0$

$S_x = 4$

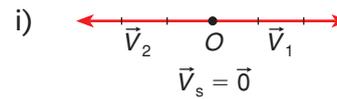
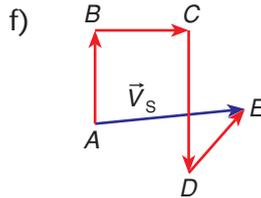
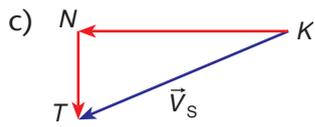
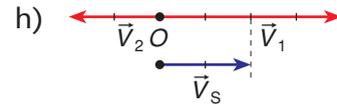
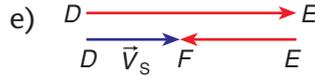
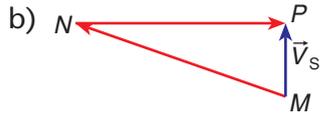
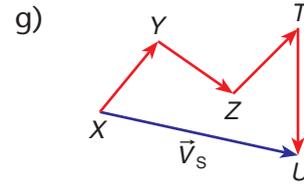
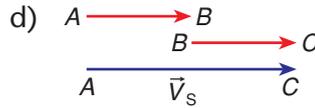
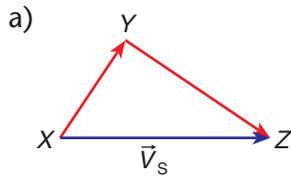
$a_y = 3$

$b_y = 0$

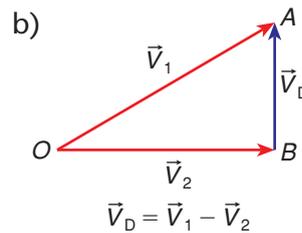
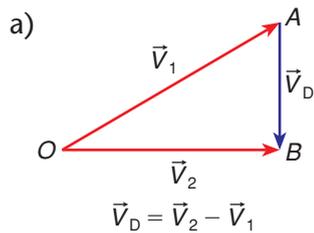
$c_y = -2$

$S_y = 3$

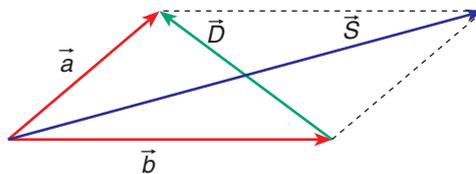
P.145



P.146



P.147



Em que:

$$\vec{s} = \vec{a} + \vec{b}$$

e

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

P.148

Os segmentos orientados que representam os vetores são consecutivos (a extremidade de um é a origem do seguinte) e, além disso, a figura é fechada. Portanto, a soma dos vetores é nula, ou seja:

$$\vec{A} + \vec{D} + \vec{B} + \vec{C} = \vec{0}$$