

lista de exercícios 1

1) a) \checkmark \checkmark

b) \checkmark \checkmark

c) \checkmark \checkmark

d) \checkmark \checkmark

e) \checkmark \checkmark

f) \checkmark \checkmark

g) \checkmark \checkmark

h) \checkmark \checkmark

i) \checkmark \checkmark

j) \checkmark \checkmark

k) \checkmark \checkmark

l) \checkmark \checkmark

m) \checkmark \checkmark

n) \checkmark \checkmark

o) \checkmark \checkmark

2) a) \checkmark \checkmark

b) \checkmark \checkmark

c) \checkmark \checkmark

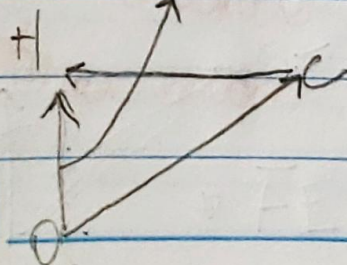
d) \checkmark \checkmark

e) \checkmark \checkmark

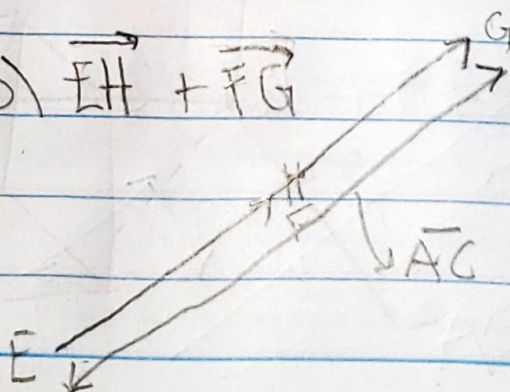
f) \checkmark \checkmark

g) \checkmark \checkmark

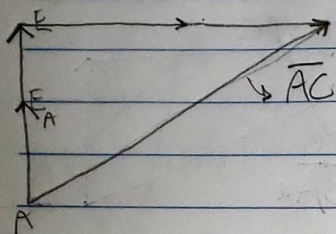
3) a) \vec{AE}



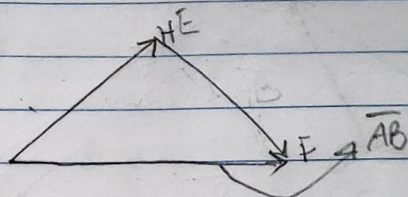
b) $\vec{EH} + \vec{FG}$



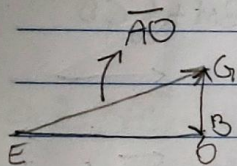
$$c) 2\vec{AE} + 2\vec{AF}$$



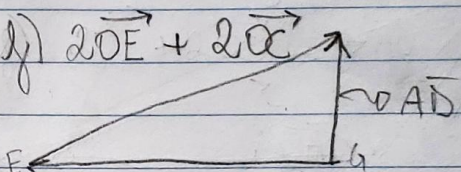
$$d) \vec{EH} + \vec{EF}$$



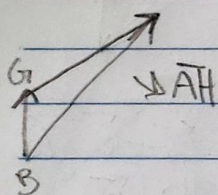
$$e) \vec{EO} + \vec{BG}$$



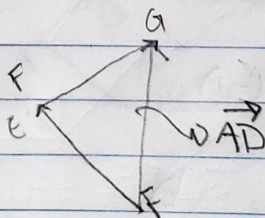
$$f) 2\vec{OE} + 2\vec{OC}$$



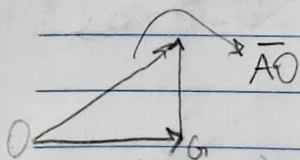
$$g) \frac{1}{2}\vec{BC} + \vec{EH}$$



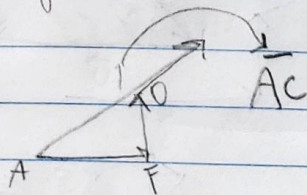
$$h) \vec{FE} + \vec{FG}$$



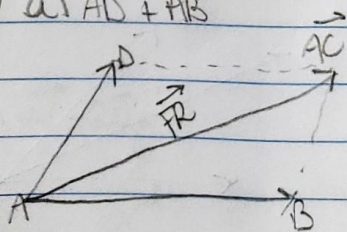
$$i) \vec{OG} - \vec{HO} = \vec{OG} + \vec{OH}$$



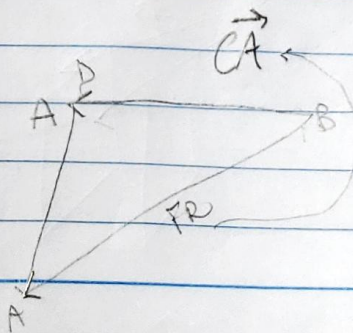
$$j) \vec{AF} + \vec{FO} + \vec{AO}$$



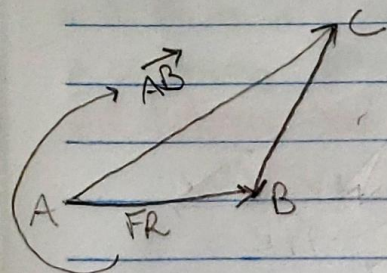
$$4) a) \vec{AD} + \vec{AB}$$



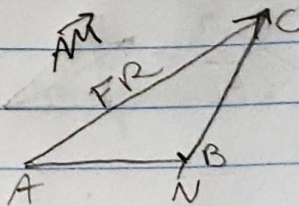
$$b) \vec{BA} + \vec{DA}$$



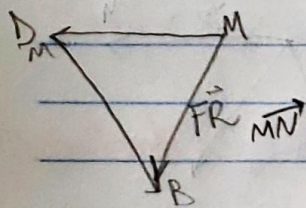
$$c) \vec{AC} - \vec{BC} = \vec{AC} + \vec{CB}$$



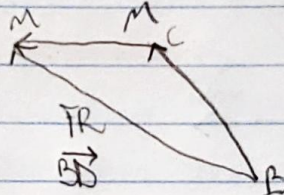
$$d) \vec{AN} + \vec{BC}$$



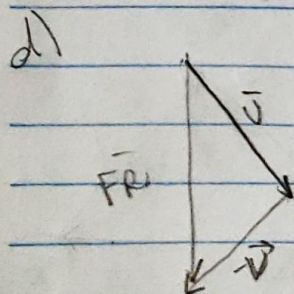
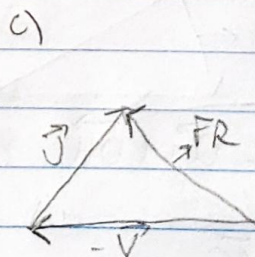
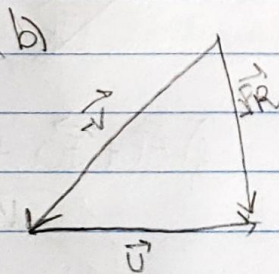
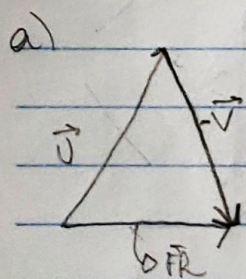
$$e) \vec{MB} + \vec{MB}$$



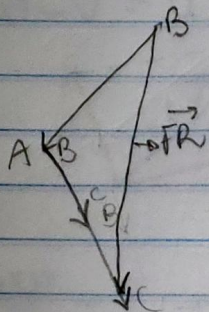
$$f) \vec{BM} - \frac{1}{2} \vec{DC} = \vec{BM} + \frac{1}{2} \vec{CB}$$



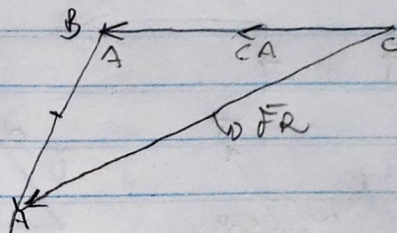
$$5) \vec{U} - \vec{V} = \vec{U} + (-\vec{V})$$



7) a) $\vec{x} = \vec{BA} + 2\vec{BC}$

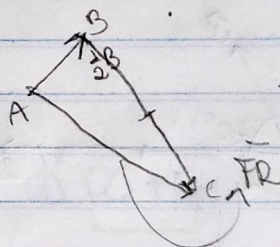
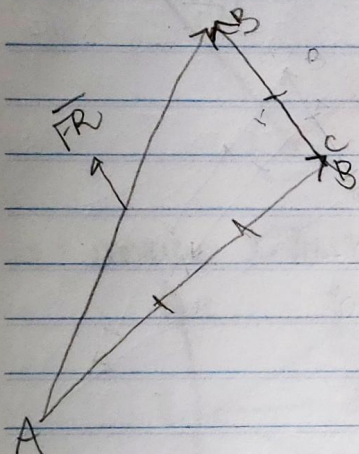


b) $\vec{x} = 2\vec{CA} + 2\vec{BA}$



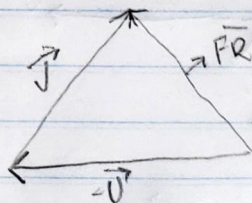
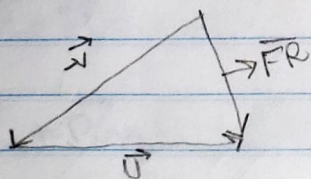
c) $\vec{x} = 3\vec{AB} - 2\vec{BC} = 3\vec{AB} + 2\vec{CB}$

d) $\vec{x} = \frac{1}{2}\vec{AB} - 2\vec{CB} = \frac{1}{2}\vec{AB} + 2\vec{BC}$

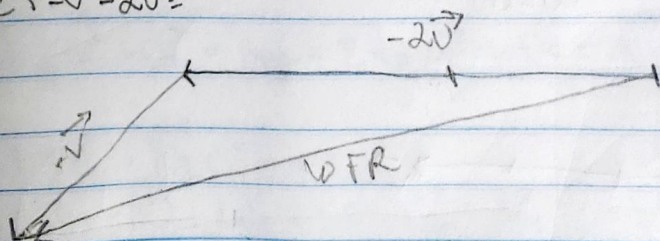


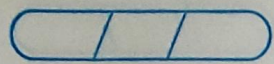
8) a) $\vec{u} - \vec{v} = \vec{u} + (-\vec{v})$

b) $\vec{v} - \vec{u} = \vec{v} + (-\vec{u})$

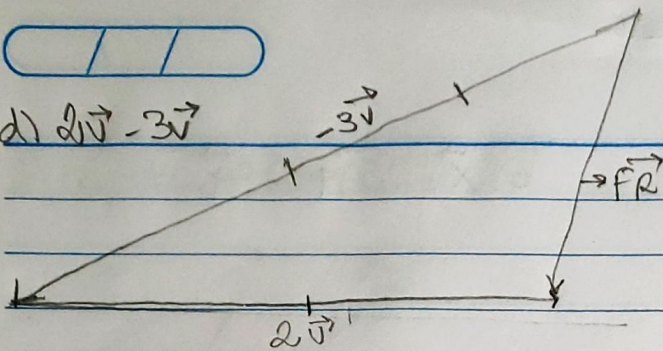


c) $-\vec{v} - 2\vec{u} =$

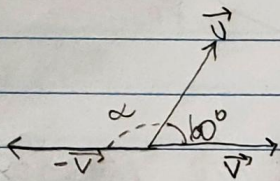




d) $2\vec{v} - 3\vec{v}$



12) a) \vec{v} e $-\vec{v}$

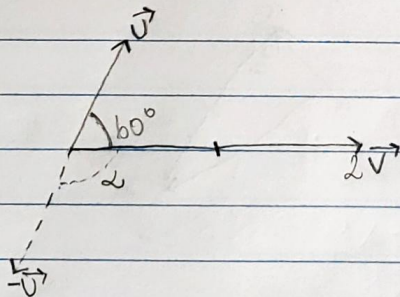


$$\alpha + 60^\circ = 180^\circ$$

$$\alpha = 180^\circ - 60^\circ$$

$$\alpha = 120^\circ$$

b) $-\vec{v}$ e $2\vec{v}$

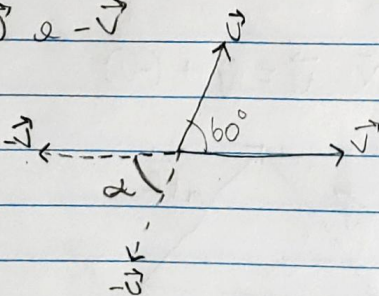


$$\alpha + 60^\circ = 180^\circ$$

$$\alpha = 180^\circ - 60^\circ$$

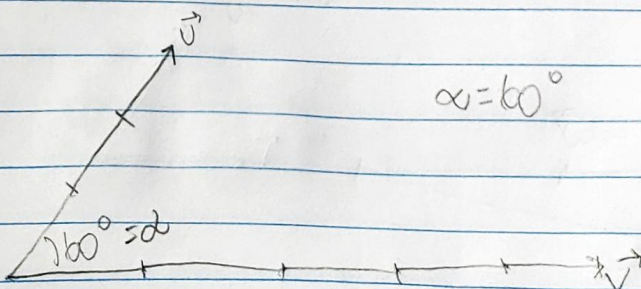
$$\alpha = 120^\circ$$

c) $-\vec{v}$ e $-\vec{v}$



$$\alpha = 60^\circ \text{ (oposto pelo vértice)}$$

d)



$$\alpha = 60^\circ$$