Vecteurs I

Exercice 1.

a) $\vec{a} = \overrightarrow{CB} + \overrightarrow{BD} + \overrightarrow{DA} = \boxed{\overrightarrow{CA}}$

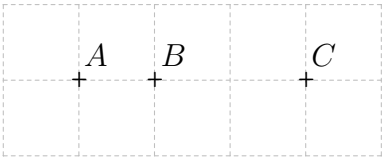
$\vec{a} = \overrightarrow{BA} + \overrightarrow{AC} + \overrightarrow{CD} = \boxed{\overrightarrow{BD}}$

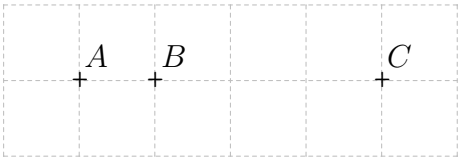
b) $\vec{b} = \overrightarrow{BA} + \underbrace{\overrightarrow{AD} + \overrightarrow{DC} + \overrightarrow{CA}}_{\overrightarrow{AA}=\vec{0}} = \boxed{\overrightarrow{BA}}$

$\vec{b} = \overrightarrow{CD} + \underbrace{\overrightarrow{BD} + \overrightarrow{DA} + \overrightarrow{AB}}_{\overrightarrow{BB}=\vec{0}} = \boxed{\overrightarrow{CD}}$

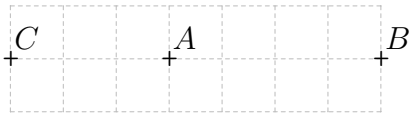
Exercice 2.

a)





b)



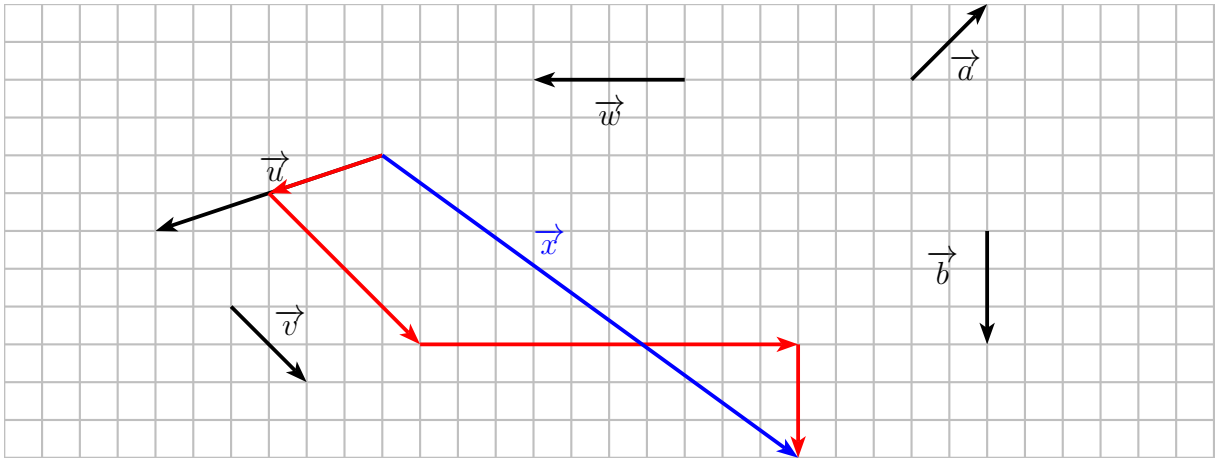
c)

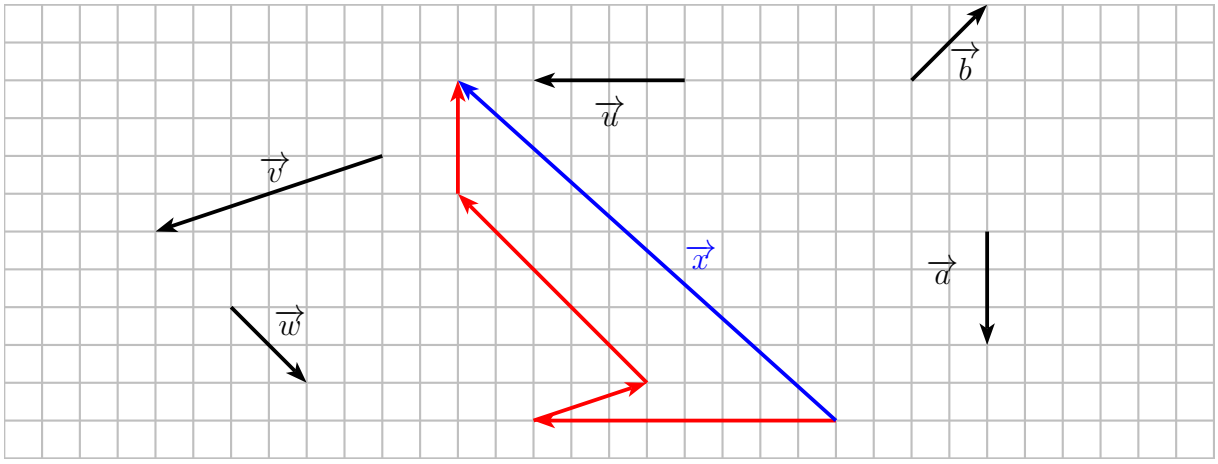
Exercice 3.

a) $\overrightarrow{JE}+\overrightarrow{GH}=\overrightarrow{HB}$	$\overrightarrow{BF}+\overrightarrow{GI}=\overrightarrow{JD}$
$\overrightarrow{HF}+\overrightarrow{FB}=\overrightarrow{JE}+\overrightarrow{GH}=\overrightarrow{HB}$	$\overrightarrow{HG}+\overrightarrow{GI}=\overrightarrow{BF}+\overrightarrow{GI}=\overrightarrow{HI}=\overrightarrow{JD}$
b) $\overrightarrow{JI}+\overrightarrow{GH}=\overrightarrow{JB}-\overrightarrow{DE}$	$\overrightarrow{HI}+\overrightarrow{BF}=\overrightarrow{HD}-\overrightarrow{AE}$
$\overrightarrow{EG}+\overrightarrow{GH}=\overrightarrow{EH}=\overrightarrow{JB}+\frac{1}{2}\overrightarrow{BC}=\overrightarrow{JB}+\overrightarrow{ED}$	$\overrightarrow{HI}+\overrightarrow{BF}=\overrightarrow{HE}=\overrightarrow{HD}+\overrightarrow{DE}=\overrightarrow{HD}+\overrightarrow{EA}$

Exercice 4.

a)





b) $\vec{u}=\boxed{-3\vec{a}-\frac{4}{3}\vec{b}}$	$\vec{u}=\boxed{-\frac{4}{3}\vec{a}-2\vec{b}}$
c) $\vec{x}=\boxed{\frac{11}{2}\vec{a}+\frac{19}{3}\vec{b}}$	$\vec{x}=\boxed{-\frac{19}{3}\vec{a}-5\vec{b}}$