

LDDR-Niveau 1: TE 12 - Trigo - GP

Trigonometrie

1) $\sin(x) = 3 \cos x \Rightarrow \frac{\sin x}{\cos x} = 3 \Rightarrow \tan x = 3.$

$$x = 71.57^\circ$$

$$x = 71.57 + 180 = 251.57^\circ$$

2) $\tan^2(x) = 1 \Rightarrow \tan x = \pm 1$

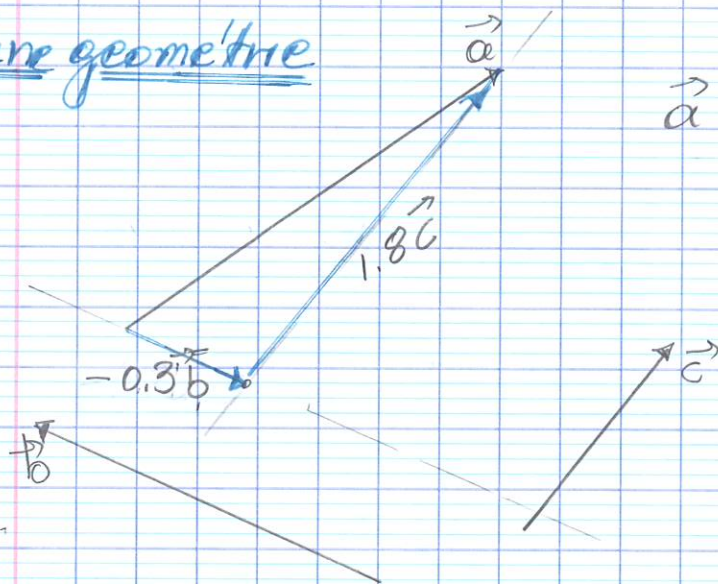
$$\tan x = 1 \Rightarrow x = \frac{\pi}{4} + k\pi$$

$$\tan x = -1 \Rightarrow x = \frac{3\pi}{4} + k\pi.$$

3) • $\sin(4x - 20^\circ) = 0 \Rightarrow 4x - 20 = 180k$
 $\Rightarrow 4x = 20 + 180k \Rightarrow x = 5^\circ + 45k.$

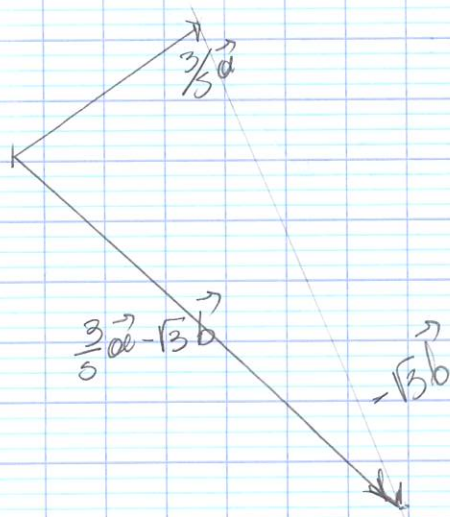
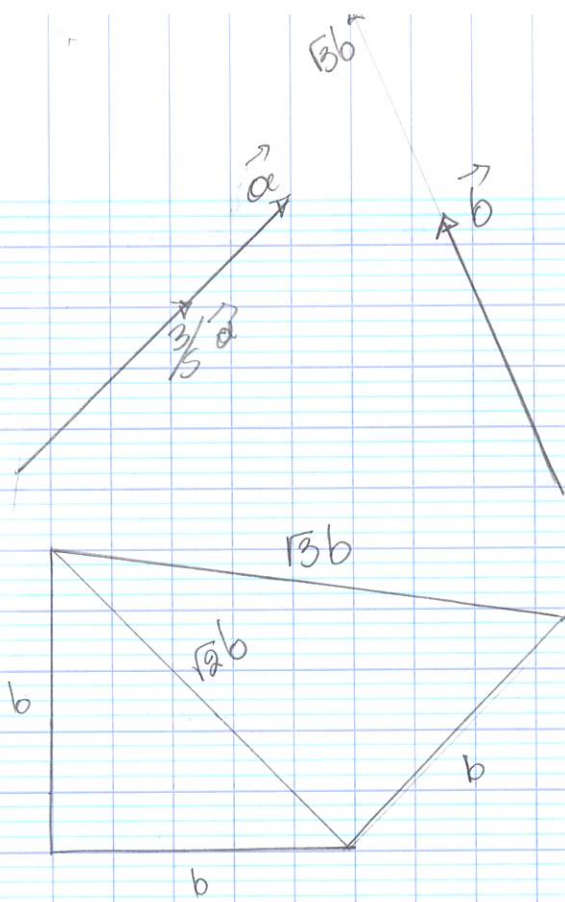
• $\sin(3x + 30) = 0 \Rightarrow 3x + 30 = 180k \Rightarrow$
 $3x = -30 + 180k \Rightarrow x = -10 + 60k.$

Plane geometrie



$$\vec{a} = -0.36\vec{b} + 1.8\vec{c}$$

2)



$$3) \vec{a} = \begin{pmatrix} 5 \\ -7 \end{pmatrix} \quad \vec{b} = \begin{pmatrix} 3 \\ -7 \end{pmatrix} \quad \vec{c} = \begin{pmatrix} -2 \\ 6 \end{pmatrix}$$

$$\vec{a} = x \cdot \vec{b} + y \vec{c} \Rightarrow$$

$$\begin{pmatrix} 5 \\ -7 \end{pmatrix} = x \cdot \begin{pmatrix} 3 \\ -7 \end{pmatrix} + y \begin{pmatrix} -2 \\ 6 \end{pmatrix} \Rightarrow$$

$$\begin{cases} 5 = 3x - 2y \\ -7 = -7x + 6y \end{cases} \quad \textcircled{1} \quad \begin{cases} 15 = 9x - 6y \\ -7 = -7x + 6y \end{cases}$$

$$+ \quad \underline{-7 = -7x + 6y}$$

$$8 = 2x \Rightarrow x = 4.$$

$$\textcircled{1} \quad 5 = 12 - 2y \Rightarrow 2y = 7 \Rightarrow y = 3.5$$

$$\vec{a} = 4\vec{b} + 3.5 \cdot \vec{c}$$