VH 26. 11. 2021

nb 28/ 2.46 a
2.47 2 body
2.48
2.49
2.50 a
29/2.53 a

2.46
a) A[1,3,-1]
B[2,3,3]
C[-2,-5,7]
$\vec{u} = \overrightarrow{AB} = B - A = [1,0,4]$
$\vec{v} = \overrightarrow{AC} = C - A = [-3,-8,-6]$
$\alpha(A, \vec{u}, \vec{v})$: $x = 1 + 1k - 3l$
$y = 3 + 0k - 8l$
$z = -1 + 4k - 6l$
$k, l \in \mathbb{R}$

2.8/2.47
A[1,0,3] B[-2,3,0] C[-3,2,4]
$\vec{u} = \overrightarrow{AB} = [-3,3,-3]$
$\vec{v} = \overrightarrow{AC} = [-4,-2,1]$
$\alpha(A, \vec{u}, \vec{v})$: $x = 1 - 3k - 4l$
$y = 0 + 3k - 2l$
$z = 3 - 3k + 1l$
$k, l \in \mathbb{R}$

$L[0,1,2] \in \alpha$
$0 = 1 - 3k - 4l$
$1 = 0 + 3k - 2l$
$2 = 3 - 3k + l$ III.

$-1 = -3k - 4l$
$1 = 3k - 2l$
$0 = -6l$
$l = 0$

$1 = 3k - 2 \cdot 0$
$k = \frac{1}{3}$

$2 = 3 - 3 \cdot \frac{1}{3} + 0$
$\frac{2}{2} = \frac{3}{2} - 1$ ✓

$L \in \alpha$

2.48

$\Sigma: \begin{cases} x = 2 - t + s \\ y = -1 + t - 2s \\ z = 3 + 2t - s \end{cases} \quad t, s \in \mathbb{R}$

$A[1, 2, 3] \in \Sigma$

$\begin{cases} 1 = 2 - t + s \\ 2 = -1 + t - 2s \\ 3 = 3 + 2t - s \end{cases} \Rightarrow 3 = 3 + 2 + 2$

$3 = 3$ ✓

$\begin{cases} 1 = 2 - t + s \\ 2 = -1 + t - 2s \end{cases}$

$\begin{cases} -1 = -t + s \\ 3 = t - 2s \end{cases}$

$-2 = -s$

$s = 2$

$-1 = -t - 2$

$1 = -t$

$t = -1$

$A \in \Sigma$

VH_27_11_PRR *

2.49

$d: \begin{cases} x = 1 + 4t - 2s \\ y = -3t + s \\ z = -2 + 6t - s \end{cases} \quad t, s \in \mathbb{R}$

$A[a_1, -3, 7] \in d \Rightarrow A[1, -3, 7]$

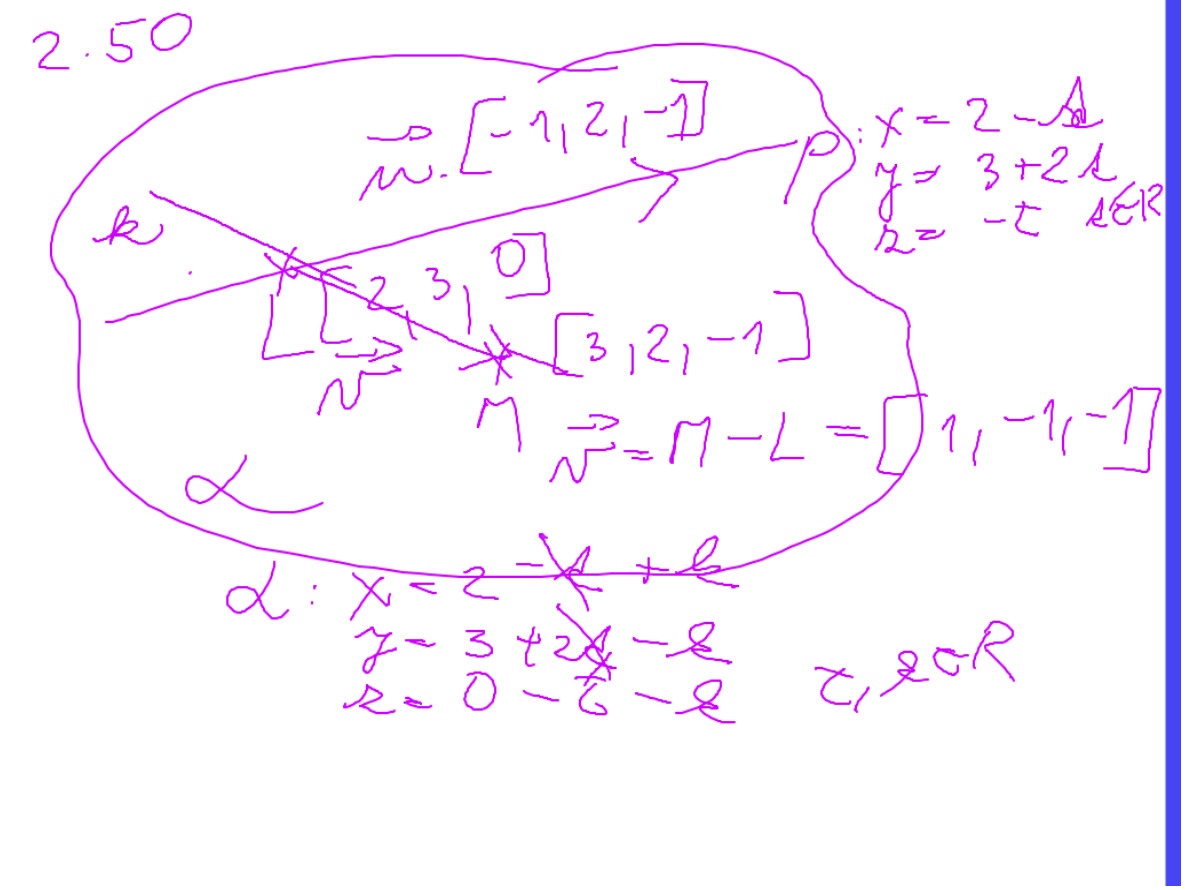
$x_1 = 1$

$x = 1 + 4t - 2s \Rightarrow x_1 = 4 \cdot 3 - 2 \cdot 6 = 1$

$\begin{cases} -3 = -3t + s \\ 7 = -2 + 6t - s \end{cases} \Rightarrow -3 = -3 \cdot 3 + s \quad s = 6$

$\begin{cases} -3 = -3t + s \\ 9 = 5t - s \end{cases}$

$6 = 2t \Rightarrow t = 3$


2.50
n. [-1, 2, -1]
p: x = 2 - s
y = 3 + 2t
z = -t s,t ∈ R
k
[2, 3, 0]
[3, 2, -1]
N
M
MN = M - L = [1, -1, -1]
α
α: x = 2 - s + t
y = 3 + 2t - s
z = 0 - t - s
t, s ∈ R