θέμα 1		
Q1	**60**	m3/h
S1	**45**	mg/L
Sπ	**10**	mg/L
kπ	**0,02**	h-1
Qπ	**600**	m3/h
u	**300**	m/h
LAB	**5000**	m
LBΓ	**8500**	
V_λ	**15000**	
k_λ	**0,01**	

t1	16,67	h
SB	7,165	mg/L
SB1	10,60	mg/L
t2	28,33	h
SΓ	6,017	mg/L
tλ	22,73	h
SΔ	***4,903***	mg/L

t1=LAB/u=5000/300=16,67h

SB=Sπ *exp(-kπ *t1)=10*exp(-0,02*16,67)=7,165mg/L

$$Q_\pi S_B + Q_1 S_1 = (Q_\pi + Q_1) S_{B1}$$

$$600 * 7{,}165 + 60 * 45 = (600 + 60) S_{B1}$$

$$S_{B1} = \frac{600 * 7{,}165 + 60 * 45}{600 + 60} = 10{,}60 mg/L$$

t2=LBΓ/u=8500/300=28,33h

SΓ=SB1*exp(-kπ* t2)=10,6*exp(-0,02*28,33)=6,017mg/L

tλ=Vλ/(Q1+Qπ)=15000/(60+600)=22,73h

SΔ=SΓ/(1+kλ* tλ)=6,017/(1+0,01∗22,73)=4,903mg/L