

rechnung_signalzeitverlauf_umkehrintegrator

Student Group

First Name	Surname	Matrikel Nr.

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At the point t_1

$U_{O}(t_1) = -\frac{1}{\tau} \int_{t_0}^{t_1} U_I dt + U_{O}(t_0)$	
$U_{O}(t_1) = -\frac{1}{5 \text{ ms}} \int_{0}^{10 \text{ ms}} 1V dt + 0V$	
$U_{O}(t_1) = -\frac{1}{5 \text{ ms}} \int_{0}^{10 \text{ ms}} 1V dt + 0V = -2V$	

At the point t_2

$U_{O}(t_1) = -\frac{1}{\tau} \int_{t_0}^{t_1} U_I dt + U_{O}(t_0)$	
$U_{O}(t_1) = -\frac{1}{5 \text{ ms}} \int_{10 \text{ ms}}^{20 \text{ ms}} (-1V) dt + 0V = -2V$	

At the point t_3

$U_{O}(t_1) = -\frac{1}{\tau} \int_{t_0}^{t_1} U_I dt + U_{O}(t_0)$	
$U_{O}(t_1) = -\frac{1}{5 \text{ ms}} \int_{10 \text{ ms}}^{20 \text{ ms}} (-2V) dt + 0V = -2V$	

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