

rechnung_signalzeitverlauf_umkehrintegrator

Student Group

| First Name | Surname | Matrikel Nr. |
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\$I.\quad\$ Am Punkt \$t_1\$

| | |
|--|--|
| $U_{A}(t_1) = -\frac{1}{\tau} \int_{t_0}^{t_1} U_E dt + U_{A}(t_0)$ | |
| | |
| $U_{A}(t_1) = -\left\{ \frac{1}{5 \text{ k}\Omega \cdot 1 \mu\text{F}} \right\} \int_{t_0}^{10\text{ms}} 1\text{V} dt + 0\text{V}$ | |
| | |
| $U_{A}(t_1) = -\frac{1}{5 \text{ ms}} \int_{t_0}^{10\text{ms}} 1\text{V} dt$ | |
| | |
| $U_{A}(t_1) = -\frac{1}{5 \text{ ms}} \int_{t_0}^{10\text{ms}} 1\text{V} dt = -2\text{V}$ | |
| | |

\$I.\quad\$ Am Punkt \$t_2\$

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|--|--|
| $U_{A}(t_1) = -\frac{1}{\tau} \int_{t_0}^{t_1} U_E dt + U_{A}(t_0)$ | |
| | |
| $U_{A}(t_1) = -\left\{ \frac{1}{5 \text{ ms}} \right\} \int_{t_0}^{10\text{ms}} (-1\text{V}) dt + 2\text{V} = 0\text{V}$ | |
| | |

\$I.\quad\$ Am Punkt \$t_3\$

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|---|--|
| $U_{A}(t_1) = -\frac{1}{\tau} \int_{t_0}^{t_1} U_E dt + U_{A}(t_0)$ | |
| | |
| $U_{A}(t_1) = -\left\{ \frac{1}{5 \text{ ms}} \right\} \int_{t_0}^{10\text{ms}} (-2\text{V}) dt + 0\text{V} = -2\text{V}$ | |
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