# rechnung_signalzeitverlauf_umkehrintegrator

## Student Group

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

| $U_{A}(t_1) \ \ = -\quad { 1 \over {\tau} } \quad \ \cdot \int_{t_0}^{t_1} U_E \ dt \ + \ U_{A}(t_0)$ | Werte einsetzen |
|---|---|
| $\qquad\qquad\qquad\qquad\qquad\quad$ | $\qquad\qquad\qquad\qquad\qquad$ |
| $U_{A}(t_1) \ \ = -{ 1 \over {5 k\Omega \cdot 1 \mu F} }\cdot\int_{0}^{10ms} 1V \ dt + 0V$ | |
| $\qquad\qquad\qquad\qquad\qquad\quad$ | $\qquad\qquad\qquad\qquad\qquad$ |
| $U_{A}(t_1) \ \ = -{ 1 \over {5 ms} } \quad \cdot 1V \ \cdot \int_{0}^{10ms} \ dt$ | |
| $\qquad\qquad\qquad\qquad\qquad\quad$ | $\qquad\qquad\qquad\qquad\qquad$ |
| $U_{A}(t_1) \ \ = -{ 1 \over {5 ms} } \quad \cdot 1V \ \cdot [t]_{0}^{10ms} = -2V$ | |
| $\qquad\qquad\qquad\qquad\qquad\qquad\quad$ | $\qquad\qquad\qquad\qquad\qquad$ |

$I.\quad$ Am Punkt $t_2$

| $U_{A}(t_1) \ \ = -\quad { 1 \over {\tau} } \quad \ \cdot \int_{t_0}^{t_1} U_E \ dt \ + \ U_{A}(t_0)$ | Werte einsetzen |
|---|---|
| $\qquad\qquad\qquad\qquad\qquad\qquad\quad$ | $\qquad\qquad\qquad\qquad\qquad$ |
| $U_{A}(t_1) \ \ = -{ 1 \over {5 ms} } \quad \cdot (-1V) \ \cdot [t]_{10ms}^{20ms} + 2V = 0V$ | |
| $\qquad\qquad\qquad\qquad\qquad\qquad\quad$ | $\qquad\qquad\qquad\qquad\qquad$ |

$I.\quad$ Am Punkt $t_3$

| $U_{A}(t_1) \ \ = -\quad { 1 \over {\tau} } \quad \ \cdot \int_{t_0}^{t_1} U_E \ dt \ + \ U_{A}(t_0)$ | Werte einsetzen |
|---|---|
| $\qquad\qquad\qquad\qquad\qquad\qquad\quad$ | $\qquad\qquad\qquad\qquad\qquad$ |
| $U_{A}(t_1) \ \ = -{ 1 \over {5 ms} } \quad \cdot (-2V) \ \cdot [t]_{10ms}^{20ms} + 0V = -2V$ | |
| $\qquad\qquad\qquad\qquad\qquad\qquad\quad$ | $\qquad\qquad\qquad\qquad\qquad$ |