

Nr. 11) a) $u(v(x))$

$$v(0) = 1 \rightarrow u(1) = 0 \Rightarrow u(v(0)) = 0$$

$$v(0,5) = 0,5 \rightarrow u(0,5) = 1 \Rightarrow u(v(0,5)) = 1$$

$$v(1) = 0 \rightarrow u(0) = 0 \Rightarrow u(v(1)) = 0$$

$v(u(x))$

$$u(0) = 0 \rightarrow v(0) = 1 \Rightarrow v(u(0)) = 1$$

$$u(0,5) = 1 \rightarrow v(1) = 0 \Rightarrow v(u(0,5)) = 0$$

$$u(1) = 0 \rightarrow v(0) = 1 \Rightarrow v(u(1)) = 1$$

b) $u(v(x)) = -4((-x+1)-0,5)^2 + 1$

$$= -4(-x+0,5)^2 + 1 = -4(x^2 - 1x + \frac{1}{4}) + 1$$

$$= -4x^2 + 4x - 1 + 1 = \underline{\underline{-4x^2 + 4x}}$$

$$u(v(0)) = -4 \cdot 0^2 + 4 \cdot 0 = 0$$

$$u(v(\frac{1}{2})) = -4 \cdot (\frac{1}{2})^2 + 4 \cdot \frac{1}{2} = -1 + 2 = 1$$

$$u(v(1)) = -4 \cdot 1^2 + 4 \cdot 1 = 0$$

$$v(u(x)) = -(-4 \cdot (x-0,5)^2 + 1) + 1$$

$$= 4 \cdot (x-0,5)^2 - 1 + 1 = 4 \cdot (x^2 - 1x + \frac{1}{4})$$

$$= \underline{\underline{4x^2 - 4x + 1}}$$

$$v(u(0)) = 4 \cdot 0^2 - 4 \cdot 0 + 1 = 1$$

$$v(u(\frac{1}{2})) = 4 \cdot (\frac{1}{2})^2 - 4 \cdot \frac{1}{2} + 1 = 0$$

$$v(u(1)) = 4 \cdot 1^2 - 4 \cdot 1 + 1 = 1$$