

$$\textcircled{1} \quad \sqrt{x+1} + 3\sqrt{4-x} = 5$$

$$\underline{BV}_1 \quad x+1 \geq 0 \Leftrightarrow x \geq -1$$

$$4-x \geq 0 \Leftrightarrow -x \geq -4 \Leftrightarrow x \leq 4$$

$$\underline{KV}_1 \quad /$$

$$\Rightarrow x+1 + 9(4-x) + 6\sqrt{(x+1)(4-x)} = 25$$

$$\Leftrightarrow x+1 + 36 - 9x + 6\sqrt{4x+4-x^2-x} = 25$$

$$\Leftrightarrow \frac{6}{3}\sqrt{-x^2+3x+4} = \frac{-12}{-6} + \frac{8x}{4}$$

$$\underline{BV}_2 \quad \text{OK want } \underline{BV}_1$$

$$\underline{KV}_2 \quad 4x-6 \geq 0 \Leftrightarrow x \geq \frac{3}{2}$$

$$\Rightarrow 9(-x^2+3x+4) = 16x^2 - 48x + 36$$

$$\Leftrightarrow -9x^2 + 27x + 36 = 16x^2 - 48x + 36$$

$$\Leftrightarrow 25x^2 - 75x = 0$$

$$\Leftrightarrow 25x(x-3) = 0$$

$$\Leftrightarrow \cancel{x=0} \vee x=3$$

wie BV2

$$V = \{3\}$$

$\textcircled{2}$

$$\frac{x-5}{x^2-4} \geq 0$$

$$T: x=5$$

$$N: x=-2 \vee x=2$$

x		-2		2		5	
$\frac{x-5}{x^2-4}$		-	/	+	/	-	0

$$\text{dom} f =]-2, 2[\cup [5, +\infty[$$

$\textcircled{3}$

* domen

$$-x^2 + x + 72 \geq 0$$

$$D = 1 - 4(-1) \cdot 72 = 289$$

$$x_1 = \frac{-1-17}{-2} = 9$$

$$x_2 = \frac{-1+17}{-2} = -8$$

x		-8		9	
$-x^2+x+72$		-	0	+	0

$$\text{dom} f = [-8, 9]$$

* mulw $\sqrt{-x^2+x+72} - 4 = 0$ BV: xie dom
 $\sqrt{-x^2+x+72} = 4$ KV: OK

$$-x^2+x+72 = 16$$

$$-x^2+x+56 = 0 \quad D = 1 - 4(-1) \cdot 56$$

$$= 225$$

$$x_1 = \frac{-1-15}{-2} = 8$$

$$x_2 = \frac{-1+15}{-2} = -7$$

f heeft als mulw 8 en -7

* tekentabel

x	-8	-7	8	9					
f(x)	/	-4	-	0	+	0	-	-4	/

④ a) $t(x) = \frac{\sqrt{x^2+1}}{2,5} + \frac{\sqrt{(4-x)^2+1}}{3}$

b) Venster: x-as: $0 \rightarrow 4$

y-as: $0 \rightarrow 3$

Calc, min $x = 1,258$