JUURIMHTÄLÖT JA JUURIEPÄYHTÄLÖT /SLG

Olkoon $a, b \geq 0$

$a = b \quad \| (\,)^2$

$a^2 = b^2$

$a < b \quad \| (\,)^2$

$a^2 < b^2$

esim $-5 = 5 \quad | (\,)^2$ epätosi

$25 = 25$ tosi

esim a) $\sqrt{x+3} = 5$

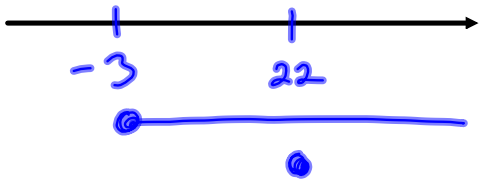
mj: $x + 3 \geq 0$

$x \geq -3$

$\sqrt{x+3} = 5 \quad | (\,)^2$

$x + 3 = 25$

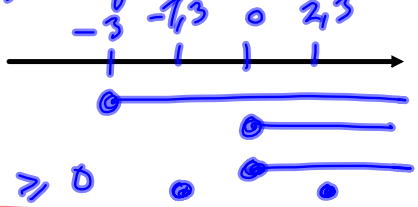
$x = 22$



V: 22

cara 2 $\sqrt{x+3} = x \,/\,(\ )^2$ mj: $x+3 \geq 0$ ja $x \geq 0$

$x \geq -3$ ja $x \geq 0$



$x \geq 0$

$x+3 = x^2$

$x^2 - x - 3 = 0$

$\vdots$

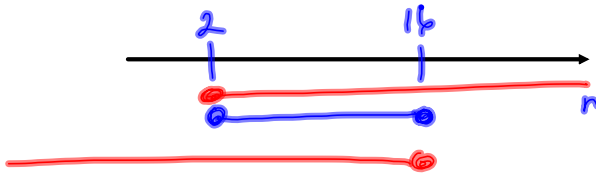
$x = \frac{1+\sqrt{13}}{2}$ kuuluu mj $\quad$ $x = \frac{1-\sqrt{13}}{2} \notin$ mj

V: $x = \frac{1+\sqrt{13}}{2}$

eins $\sqrt{x-2} \leq 16-x \quad |(\,)^2$ 2)

1) mj: $x-2 \geq 0$ ja $\quad 16-x \geq 0$

$x \geq 2$ ja $\quad x \leq 16$



$2 \leq x \leq 16$

$x-2 \leq (16-x)^2$

$(a-b)^2 = a^2 - 2ab + b^2$

$\vdots$

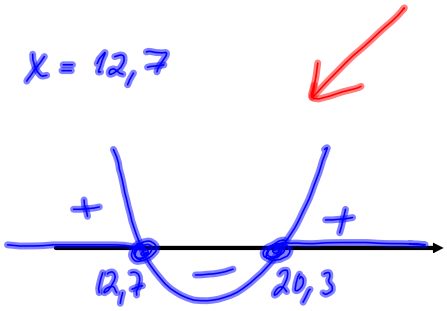
$x^2 - 33x + 258 \geq 0$

mk: t

merk. ehf. $x^2 - 33x + 259 = 0$

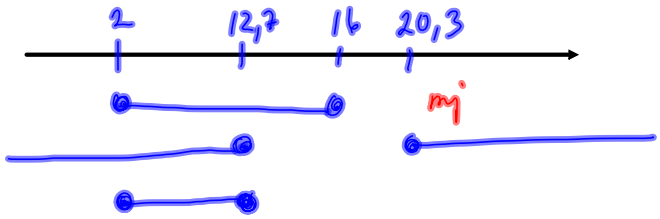
$\vdots$

$x = 20{,}3$ tai $\quad x = 12{,}7$



3) $x \leq 12{,}7$ tai $\quad x \geq 20{,}3$

4)



V: $\quad 2 \leq x \leq 12{,}7$