

$$2\arctg x = \arcsin(2x/(1+x^2))$$

$$\arcsin(2x/(1+x^2)) \in [-\pi/2; \pi/2]$$

$$2\arctg x \in [-\pi/2; \pi/2]$$

$$\arctg x \in [-\pi/4; \pi/4]$$

$$-1 \leq x \leq 1$$

$$-1 \leq 2x/(1+x^2) \leq 1$$

$$-1 \leq 2x/(1+x^2)$$

$$-1-x^2-2x \leq 0$$

$$x^2+2x+1 \geq 0$$

$$(x+1)^2 \geq 0$$

$$2x/(1+x^2) \leq 1$$

$$2x \leq 1+x^2$$

$$(x-1)^2 \geq 0$$

$$2\arctg x = \arcsin(2x/(1+x^2)) \quad \parallel \quad \sin$$

$$\sin(2\arctg x) = 2x/(1+x^2)$$

$$\arctg x = t \quad t \in (-\pi/2; \pi/2) \quad \text{tg}(t) = x$$

$$\sin(2t) = 2\sin t \cdot \cos t = 2x \cdot \cos^2 t = 2x/(1+x^2)$$

$$2x/(1+x^2) = 2x/(1+x^2)$$

ОТВЕТ  $-1 \leq x \leq 1$

АРКИ УРАВНЕНИЯ 07

$$2\arctg x = \arcsin(2x/(1+x^2))$$