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$$(26) |x^2 + 2x| = b$$

$$1. |1 - 2| = b$$

$$|-1| = b$$

$$b = 1$$

$$2. \text{ ~~} |x^2 + 2x| \text{ Lsgn } b < 0 \Rightarrow b = -1~~$$

$$3. \text{ Lsgn } b = 0, \text{ f. ng Lsgn } b < 0, x \in \emptyset$$

$$\text{Lsgn } b > 0, x \text{ mit } |b|$$

4.

$$5. \text{ 3 Lsgn } b$$

$$6. \text{ Lsgn } x = 1$$

$$(27) \text{ ke } \sin 2x = -1$$

$$1. \quad 2x = \frac{3\pi}{2} + 2k\pi \quad k \in \mathbb{Z}$$

$$x = \frac{3\pi}{4} + \pi k \quad k \in \mathbb{Z}$$

$$2. \quad \frac{3\pi}{4}$$

$$3. \quad -\frac{\pi}{4}; \quad \frac{3\pi}{4}; \quad \frac{7\pi}{4} \quad \Rightarrow 3 \text{ hely}$$

$$4. \quad -\frac{\pi}{4}$$

$$(28) \text{ ke } \cos 2x = -1$$

$$2x = \pi + 2k\pi \quad k \in \mathbb{Z}$$

$$x = \frac{\pi}{2} + \pi k \quad k \in \mathbb{Z}$$

$$1. \quad \frac{\pi}{2}$$

$$2. \quad -\frac{\pi}{2}$$

$$3. \quad \frac{\pi}{2}; \quad \frac{3\pi}{2}; \quad \frac{5\pi}{2}; \quad \frac{7\pi}{2}; \quad \frac{9\pi}{2}; \quad \frac{11\pi}{2};$$

$$\frac{13\pi}{2}; \quad \frac{15\pi}{2}; \quad \frac{17\pi}{2}; \quad \frac{19\pi}{2} \quad \Rightarrow 10 \text{ hely}$$

$$4. \frac{\pi}{2} + k\pi \quad k \in \mathbb{Z}$$

$$(29) \quad \mathbb{R} \quad \frac{\sin x}{1 + \cos x} = 0$$

$$1. \quad \cos x \neq -1$$

$$x \neq \pi + 2k\pi \quad k \in \mathbb{Z}$$

$$2. \quad 2\pi \quad \Rightarrow \quad \frac{\sin 2\pi}{1 + \cos 2\pi} = 0$$

$$3. \quad \text{because } \sin x = 0$$

$$4. \quad \sin x = 0$$

$$x = 2k\pi \quad k \in \mathbb{Z}$$

$$2k\pi + \frac{2\pi + 4\pi}{2} = 3\pi$$

$$(30) \sin x - \sqrt{3} \cos x = 0$$

$$1. \sin x = \sqrt{3} \cos x$$

$$\operatorname{tg} x = \sqrt{3}$$

$$x = \frac{\sqrt{3}}{3} + \pi k \quad k \in \mathbb{Z}$$

$$2. -\frac{2\sqrt{3}}{3} \quad \text{срр} \quad k = -1$$

$$3. -\frac{5\sqrt{3}}{3} \quad \text{срр} \quad k = -2$$

$$4. -\frac{5\sqrt{3}}{3}; -\frac{2\sqrt{3}}{3}; \frac{\sqrt{3}}{3}; \frac{4\sqrt{3}}{3} \quad \text{срр} \quad 4 \text{ корней}$$

$$(31) \operatorname{tg} x + 1 = 0$$

$$1. \operatorname{tg} x = -1$$

$$x = \frac{3\sqrt{3}}{4} + \pi k \quad k \in \mathbb{Z}$$

$$2. \frac{\sqrt{3}}{2}$$

$$3. \quad -\frac{\sqrt{2}}{4} + 2\sqrt{2}k \quad k \in \mathbb{Z}$$

$$4. \quad |2x| < \sqrt{2}$$

$$\begin{cases} 2x > -\sqrt{2} \\ 2x < \sqrt{2} \end{cases} \Rightarrow \begin{cases} x > -\frac{\sqrt{2}}{2} \\ x < \frac{\sqrt{2}}{2} \end{cases} \quad \text{Skizze} \quad -\frac{\sqrt{2}}{4}$$

$$6. \quad (32) \quad \text{L\u00f6se } 2x + 1 = 0$$

$$1. \quad \text{W\u00e4hle } 2x = -\frac{1}{k} \quad k \in \mathbb{Z}$$

$$2x = \begin{cases} 2x = \frac{2\sqrt{2}}{3} \\ 2x = \frac{4\sqrt{2}}{3} \end{cases} \Rightarrow \begin{cases} x = \frac{2\sqrt{2}}{3} + 2k\sqrt{2} \\ x = \frac{4\sqrt{2}}{3} + 2k\sqrt{2} \end{cases} \quad k \in \mathbb{Z}$$

$$x = \pm \frac{\sqrt{2}}{3} + k\sqrt{2} \quad k \in \mathbb{Z}$$

$$2. \quad \frac{\sqrt{2}}{3}$$

$$3. \quad -\frac{\sqrt{2}}{3} - \frac{\sqrt{2}}{3} = -\frac{2\sqrt{2}}{3}$$

$$4. \quad |x| < \sqrt{2} \Rightarrow \begin{cases} x > -\sqrt{2} \\ x < \sqrt{2} \end{cases} \Rightarrow \frac{\sqrt{2}}{3}, -\frac{\sqrt{2}}{3}$$

33. 1. $\sin x + \cos x = 0$

$\sin x = -\cos x$

$\cos x \neq 0$

$x = \frac{\sqrt{2}}{2} + \sqrt{2}k \quad k \in \mathbb{Z}$

$\tan x = -1$

$x = \frac{3\sqrt{2}}{2} + \sqrt{2}k \quad k \in \mathbb{Z}$

2. $\cos x = \frac{1}{2}$

$\cos x = \pm \frac{\sqrt{2}}{2}$

~~$x = \pm \frac{\sqrt{2}}{2} + 2\sqrt{2}k \quad k \in \mathbb{Z}$~~

$x = \frac{\sqrt{2}}{2} + \frac{\sqrt{2}k}{2} \quad k \in \mathbb{Z}$

3. $(\tan x - 1)\cos x = 2(\tan x - 1)$

$\tan x \neq 1$

$\cos x = 2$

$x \in \emptyset$

$x \neq \frac{\sqrt{2}}{2} + \sqrt{2}k \quad k \in \mathbb{Z}$

4. $\sin 2x = 1$

$2x = \frac{\sqrt{2}}{2} + 2\sqrt{2}k \quad k \in \mathbb{Z}$

$x = \frac{\sqrt{2}}{4} + \sqrt{2}k \quad k \in \mathbb{Z}$

$$-\frac{3\sqrt{5}}{5}, -\frac{2\sqrt{5}}{5}, \frac{\sqrt{5}}{5}, \frac{5\sqrt{5}}{5} \Rightarrow \text{6 hump}$$

$$(34) \sin\left(x - \frac{\sqrt{5}}{5}\right) = 0$$

$$1. x - \frac{\sqrt{5}}{5} = \pi k \quad k \in \mathbb{Z}$$

$$x = \frac{\sqrt{5}}{5} + \pi k \quad k \in \mathbb{Z}$$

$$2. -\frac{14\sqrt{5}}{5}; -\frac{8\sqrt{5}}{5}; -\frac{4\sqrt{5}}{5}; \frac{\sqrt{5}}{5}; \frac{6\sqrt{5}}{5};$$

$$\frac{11\sqrt{5}}{5} \Rightarrow \text{6 hump}$$

$$3. -\frac{\sqrt{5}}{5}$$

$$4. \frac{16\sqrt{5}}{5}$$