

(b)

- 1

-10

-5-

- 2

er

$$\rightarrow f(a) = \frac{a+1}{a-1} \rightarrow f(f(a)) = f\left(\frac{a+1}{a-1}\right) = \frac{\frac{a+1}{a-1} + 1}{\frac{a+1}{a-1} - 1} = \frac{\frac{a+1+a-1}{a-1}}{\frac{a+1-a+1}{a-1}} = \frac{2a}{2} = a \Rightarrow a \in \mathbb{R} - \{1\}$$

$$\rightarrow x^2 - 1 = 0 \rightarrow (x-1)(x+1) = 0 \rightarrow x = 1 \Rightarrow g(a) = 1 \rightarrow \sqrt{a^2 - 1} = 1 \rightarrow a^2 - 1 = 1 \rightarrow a = \pm \sqrt{2}$$

$$\rightarrow f_{(x+1)} \circ (x-1)(x-2) \Rightarrow f_{(x)} \circ (x-1)(x-2) \Rightarrow f_{(-1)} \times f_{(-1)}^{\uparrow} = 1 \times 1 = 1 \Rightarrow 1 \in \mathbb{Z}$$

$(-1)(-1)$
 $\downarrow$
 $(-1)(-1)$

$$\rightarrow \cos^2 x + \sin^2 x = 1 \Rightarrow \cos^2 x + \sin^2 x - 1 = 0 \xrightarrow{\text{Weg}} \cos^2 x + \sin^2 x - 1 = 0 \Rightarrow (\cos x + 1)(\cos x - 1) = 0$$

$$\Rightarrow \cos x = \frac{-1}{1} \Rightarrow \cos x = -1 \Rightarrow \frac{1}{\cos x} = 1 + \tan^2 x \Rightarrow \tan^2 x = f_{(1,0)} = 0$$