

FUNCTIONS + DOMAIN REVIEW

1) \cup union
all values
 \cap intersection

2) not a function
even
 $y = \pm \sqrt{x}$
 $|y|$

3) a-c
Domain: L to R
Range: Low to High

d-i
Rational Func: Denom $\neq 0$
Even Roots: Test Points

$$4(b) \quad f(x) = \begin{cases} 3/x & x < -4 \\ x+2 & -4 \leq x \leq 6 \\ 5 & x > 6 \end{cases}$$

$$f(-2) = -2 + 2 = 0$$

5) $(f \circ g)(x) = h(x)$

$$h(x) = \sqrt[5]{\frac{4}{x^2+x-3}}$$

$$f(x) = \sqrt[5]{x}$$

$$g(x) = \frac{4}{x^2+x-3}$$

6/ $f(x) = \sqrt{4-x^2}$

$$g(x) = \sqrt{x+6}$$

$$(f \circ g)(x) = \sqrt{4 - (\sqrt{x+6})^2}$$

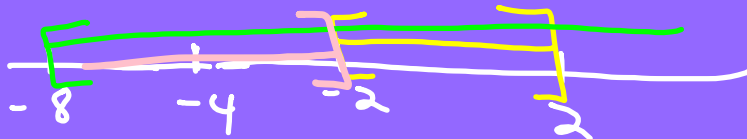
$$= \sqrt{4 + (x+6)}$$

$$= \sqrt{-x-2}$$

f: $[-2, 2]$

g: $[-8, \infty)$

f ∘ g: $[-2, 0]$



Domain $x = -2$

$$\begin{aligned}3x + 7y &= -5 \\2x - 6y &= -46\end{aligned}$$

Matrix Eq. $[A]^{-1}$

$$\cancel{[A]}^{-1} \begin{bmatrix} 3 & 7 \\ 2 & -6 \end{bmatrix} \cdot \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} -5 \\ -46 \end{bmatrix}$$

$$\begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 3 & 7 \\ 2 & -6 \end{bmatrix}^{-1} \cdot \begin{bmatrix} -5 \\ -46 \end{bmatrix}$$

