

## Overview of problems



Example Set: A

Find the inverse of the relation

$$\{(1, 6), (-2, 3), (4, 0), (-7, 9)\}$$

$$\{(-4, 8), (0, 6), (1, -1), (5, 3)\}$$

$$\{(1, 1), (2, 2), (3, 3), (4, 4)\}$$



Example Set: B

Find the inverse of the given function

$$y = 6x + 2$$

$$y = -\frac{1}{3}x + 7$$

$$f(x) = 5x - 4$$

$$f(x) = x + 2$$



### Example Set: C

Use the graph of the function to determine if it has an inverse function? **explain**

$$f(x) = 2x + 3$$

$$f(x) = x^2 - 4$$

$$f(x) = |x|$$



### Example Set: D

Determine if  $f(x)$  and  $g(x)$  are inverses of each other.

$$f(x) = 3x + 1, \quad g(x) = \frac{1}{3}x - \frac{1}{3}$$

$$f(x) = -\frac{1}{2}x + 4, \quad g(x) = -\frac{1}{4}x + 8$$

$$f(x) = x + 5, \quad g(x) = x - \frac{1}{5}$$

$$f(x) = -2x + \frac{2}{3}, \quad g(x) = -\frac{1}{2}x + \frac{1}{3}$$

## Overview of problems- KEY



Example Set: A

Find the inverse of the relation

$$\{(1, 6), (-2, 3), (4, 0), (-7, 9)\}$$

$$\{(6, 1), (3, -2), (0, 4), (9, -7)\}$$

$$\{(-4, 8), (0, 6), (1, -1), (5, 3)\}$$

$$\{(8, -4), (6, 0), (-1, 1), (3, 5)\}$$

$$\{(1, 1), (2, 2), (3, 3), (4, 4)\}$$

$$\{(1, 1), (2, 2), (3, 3), (4, 4)\}$$



## Example Set: B

Find the inverse of the given function

$$y = 6x + 2$$

$$y = \frac{x}{6} - \frac{1}{3}$$

$$y = -\frac{1}{3}x + 7$$

$$y = -3x + 21$$

$$f(x) = 5x - 4$$

$$f^{-1}(x) = \frac{x}{5} + \frac{4}{5}$$

$$f(x) = x + 2$$

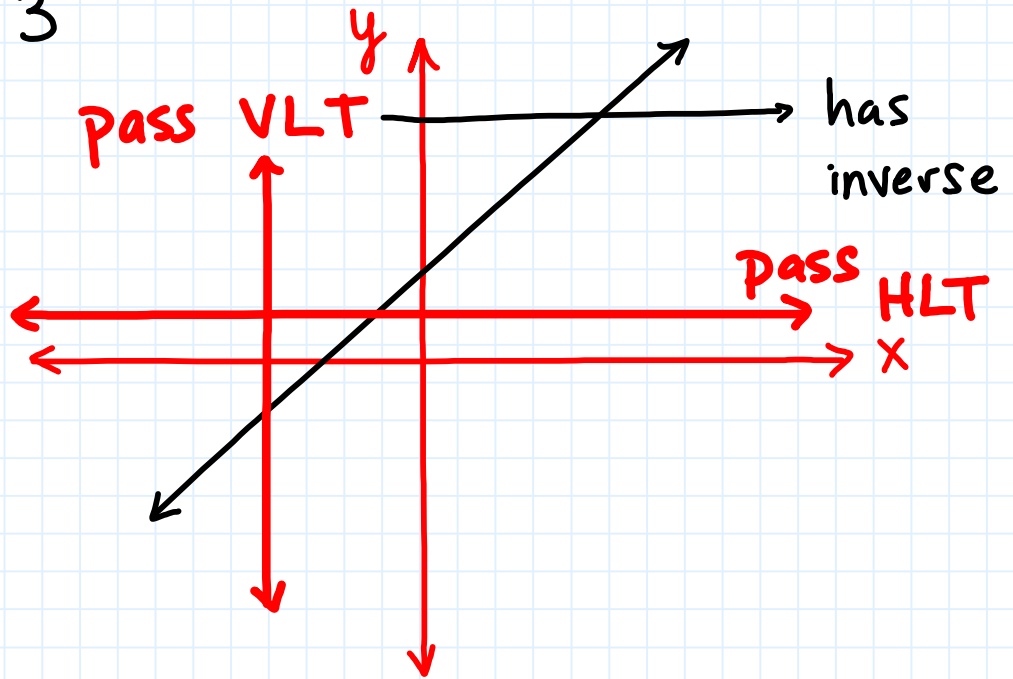
$$f^{-1}(x) = x - 2$$



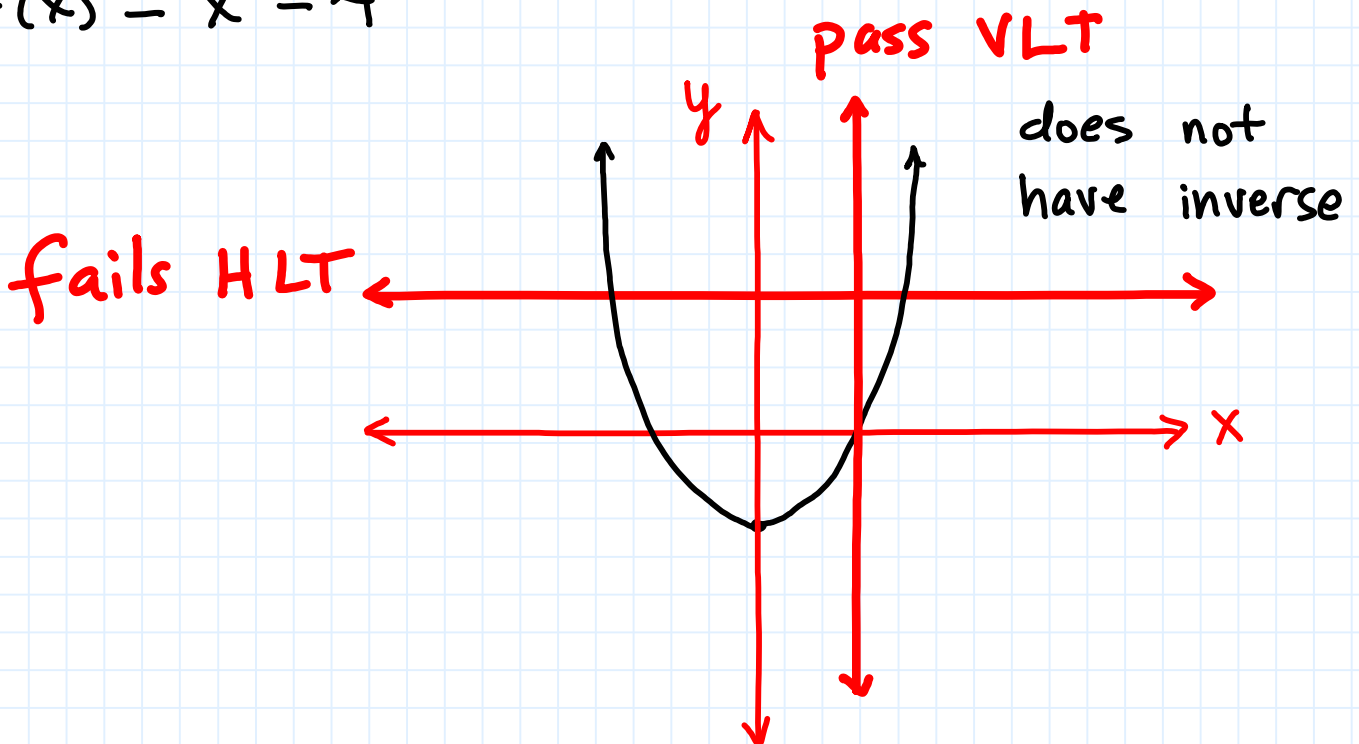
## Example Set: C

Use the graph of the function to determine if it has an inverse function? **explain**

$$f(x) = 2x + 3$$

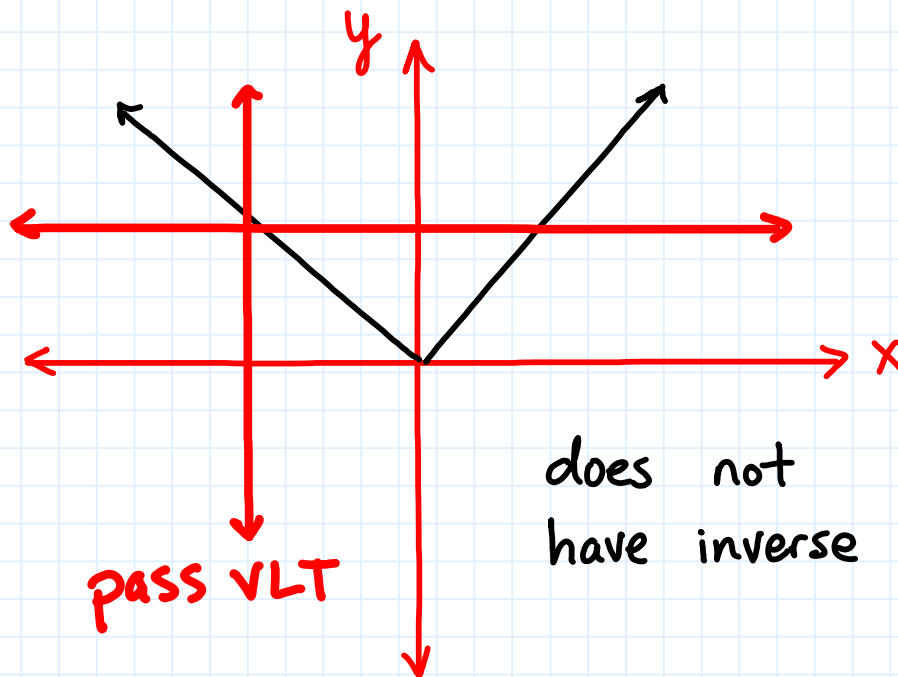


$$f(x) = x^2 - 4$$



$$f(x) = |x|$$

Fails HLT



pass VLT

does not  
have inverse



Example Set: D

Determine if  $f(x)$  and  $g(x)$  are inverses of each other.

$$f(x) = 3x + 1, \quad g(x) = \frac{1}{3}x - \frac{1}{3} \quad \text{yes}$$

$$f(x) = -\frac{1}{2}x + 4, \quad g(x) = -\frac{1}{4}x + 8 \quad \text{no}$$

$$f(x) = x + 5, \quad g(x) = x - \frac{1}{5} \quad \text{no}$$

$$f(x) = -2x + \frac{2}{3}, \quad g(x) = -\frac{1}{2}x + \frac{1}{3} \quad \text{yes}$$