Lecture 09/22/23 Intro to Piecewise Functions

HW Due 16 18 19
Tod Sun Wen

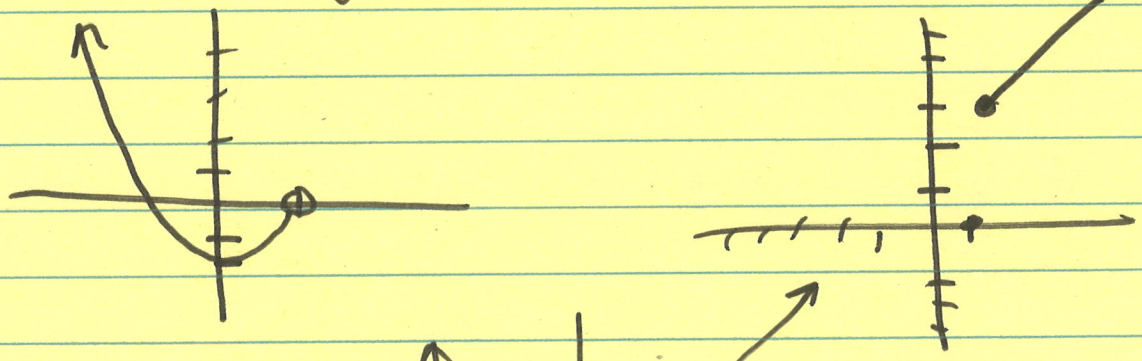
Piecewise functions are multiple function stitched together

Ex #8 #94 + #10 95

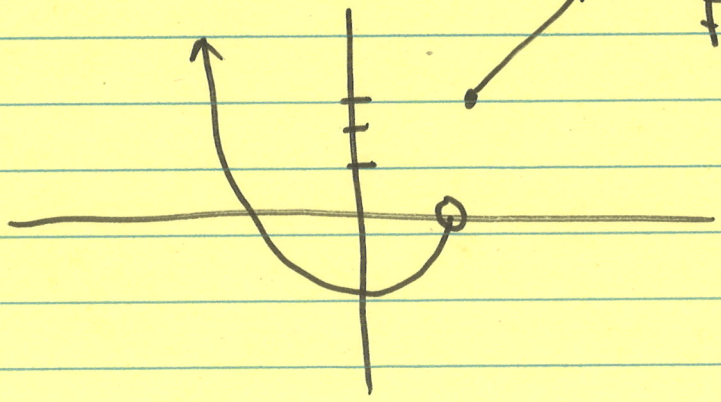
8

(9) Erase everything after 1

Erase everything before 1



(10)



This represents a function passes VLT!
We graph it like so

$$g(x) = \begin{cases} x^2 - 2 & x < 1 \\ x + 2 & x \geq 1 \end{cases}$$

← draw x^2-2 from $(-\infty, 1)$ on

← Draw $x+2$ on $[1, \infty)$

$-4 < 1$ so plug into $x^2 - 1$

$g(-4) = (-4)^2 - 2 = \boxed{14}$

$3 \geq 1$ so Plug into $x+2$

$g(3) = (3) + 2 = \boxed{5}$

Revenge of Domain and Range

#3 p. 96

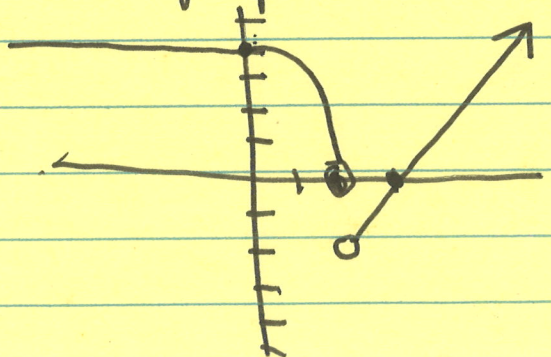
$$h(x) = \begin{cases} 4 & \text{for } x \leq 0 \\ 4 - x^2 & \text{for } 0 < x < 2 \\ 2x - 6 & \text{for } x > 2 \end{cases}$$

Domain: Given to us → $(-\infty, 0] \cup (0, 2) \cup (2, \infty)$

Squish

$(-\infty, 2) \cup (2, \infty)$

Range: Let's graph for this $(-2, \infty)$



Graph to equation (use what we did last week!

#5

$$\begin{cases} 10.5 & (3,8) \\ 6.5 & [1,12.2] \\ \frac{4.9}{2}(x)+1.5 & [0,1] \end{cases}$$