

Unit 2B Day 2 Notes

Evaluating & Graphing Piece-wise Functions
example: *evaluating

$$f(x) = \begin{cases} 1-x, & x \leq 1 \\ x^2, & x > 1 \end{cases}$$

evaluate $f(x)$ at $x = -2, 1, 2, 3$

(a) $x = -2$

$$1 - (-2) = 1 + 2 = 3$$

(c) $x = 2$

$$(2)^2 = 4$$

(b) $x = 1$

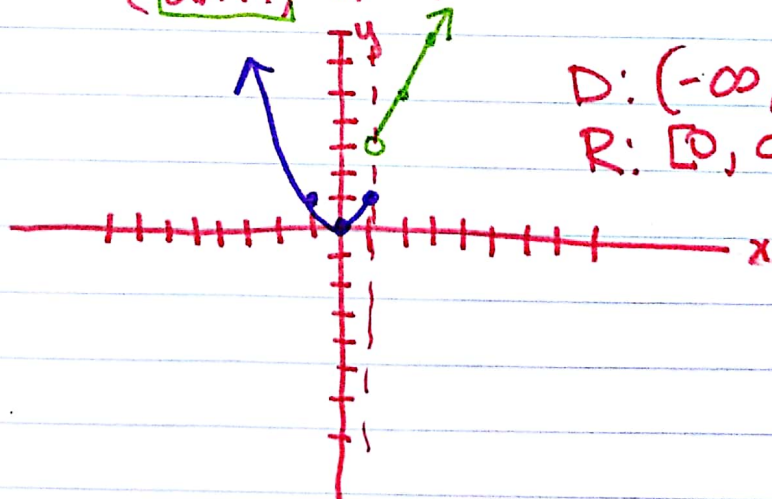
$$1 - 1 = 0$$

(d) $x = 3$

$$(3)^2 = 9$$

example: *graphing

$$f(x) = \begin{cases} x^2, & x \leq 1 \\ 2x+1, & x > 1 \end{cases}$$



$$D: (-\infty, \infty)$$

$$R: [0, \infty)$$

example:

$$f(x) = \begin{cases} 2x^2 + x - 6, & x > 1 \\ 2x + p, & x \leq 1 \end{cases}$$

find the value of p that makes the function continuous.

$$2(1)^2 + x - 6 = 2 + 1 - 6 = (-3)$$

$$-3 = 2(1) + p$$

$$-3 = 2 + p$$

$$-2 \quad -2$$

$$\boxed{-5 = p}$$