

CALCULUS - 2025/2026

- 1) Homework 1A,B,C,D , TEST 1
2A,B,C,D , TEST 2 and so on.

CORRECT PROBLEMS AFTER EACH PAGE

- 2) Syllabus has our SCHEDULE FOR THE YEAR.

- 3) Tests 1 and 4 in-class
Tests 2 & 3 are take home tests
(so we make it through the year
before June)

- 4) FORMULA & DEFINITIONS PAGE

Ch. 1 - GRAPHING MORE PARENT FUNCTIONS

TERMINOLOGY

1) VARIABLE - _____

2) CONSTANT - _____

EXAMPLES: _____

3) COEFFICIENT - _____

EXAMPLES: _____

RULE

$$y = x^2 \text{ or } f(x) = x^2$$

<u>x</u>	<u>y or f(x)</u>
variable <u>3</u> -2 SET A	<u>9</u> 4 SET B variable

Domain : all _____ values ;

RANGE : all _____ values ;

ABSOLUTE VALUE - _____

$$|-3| = \quad |x| =$$

INTERVALS

IF a and b are end points on an interval,
where $a < b$

$(,)$ _____ the endpoints

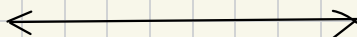
$[,]$ _____ the endpoints

EXAMPLES

$(2, 5)$



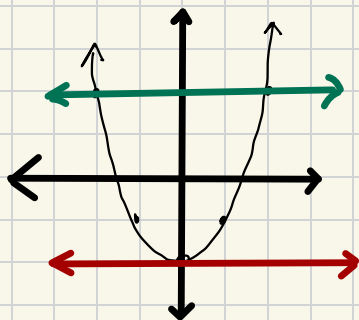
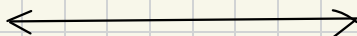
$(2, 5]$



$[2, 5)$



$[2, 5]$



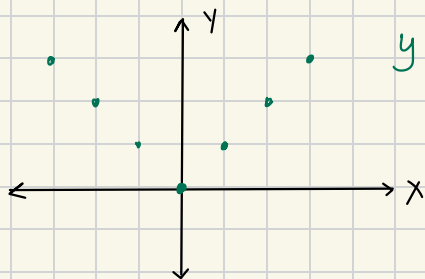
TANGENT LINE TOUCHES A FUNCTION
IN _____ PLACE(S).

SECANT LINE TOUCHES A FUNCTION
IN _____ PLACE(S).

WHAT IS THE EQUATION FOR THE
PARABOLA? _____

GRAPHING ABSOLUTE VALUE FUNCTION

PARENT FUNCTION



$$y = |x|$$

EXAMPLE 1

SOLVE

$$|x+2| = 3$$

where does

$y=3$ intersect

$$y = |x+2|$$

INEQUALITIES ARE A BIT DIFFERENT.

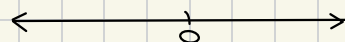
EXAMPLE 2

SOLVE

$$|2x+1| = 2$$

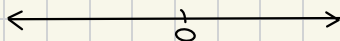
EX. 3

$$|x+2| \leq 2$$

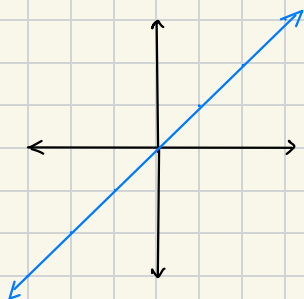


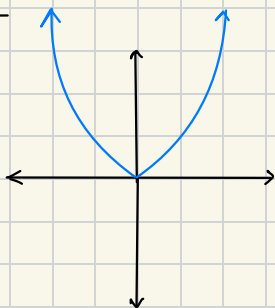
EX. 4

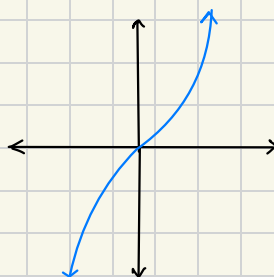
$$|3-x| > 4$$

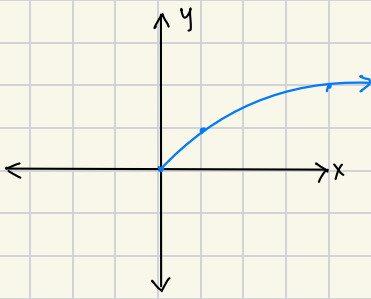


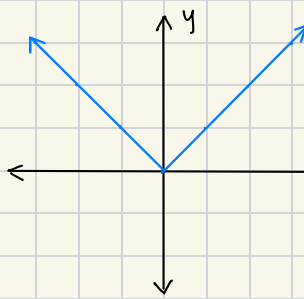
PARENT FUNCTIONS

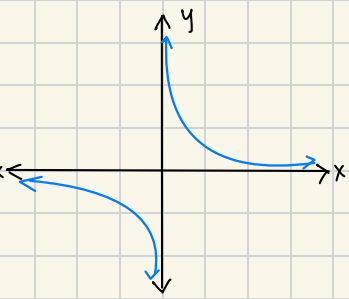








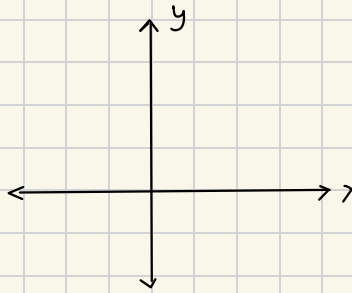




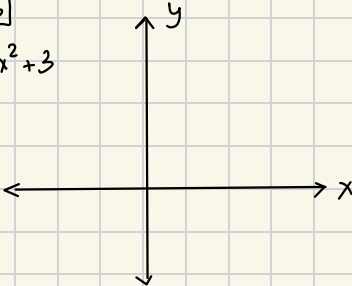
EX. 5 DRAW $y = \frac{1}{x-2}$

x y

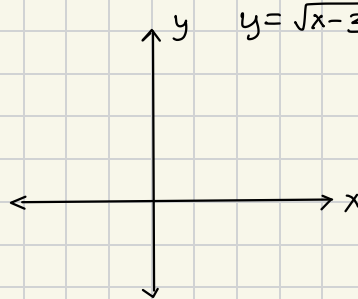
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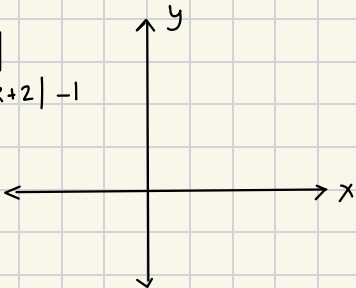
EX. 6
 $y = 2x^2 + 3$



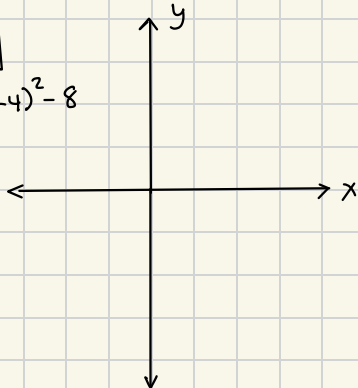
EX. 7 $y = \sqrt{x-3}$



EX. 8
 $y = |x+2| - 1$



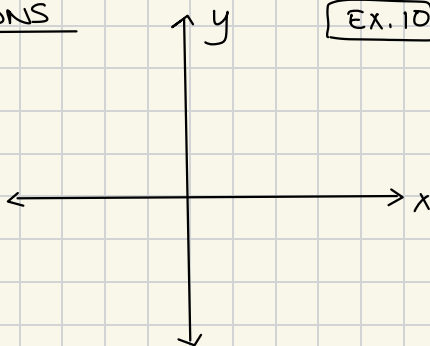
EX. 9
 $y = \frac{1}{2}(x-4)^2 - 8$



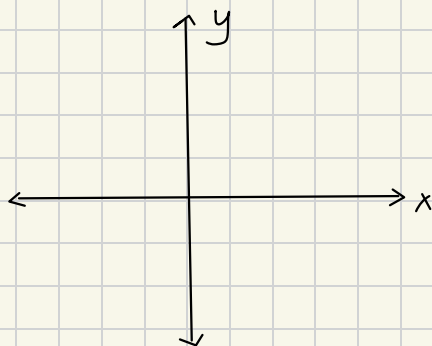
GRAPHS w/ MULTIPLE DEFINITIONS

$$y = \begin{cases} x+2 & \text{if } x > 3 \\ x & \text{if } x \leq 3 \end{cases}$$

EX. 10



EX. 11



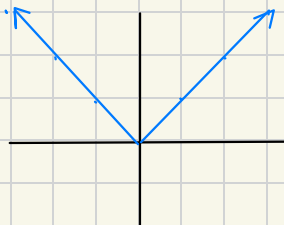
$$y = \begin{cases} x, & \text{WHEN } x=2 \\ -x, & \text{WHEN } x \neq 2 \end{cases}$$

CONTINUITY

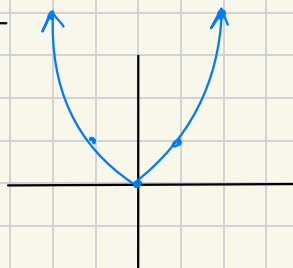
A GRAPH IS CONTINUOUS IF YOU CAN

AND THERE ARE

CONTINUOUS FUNCTIONS

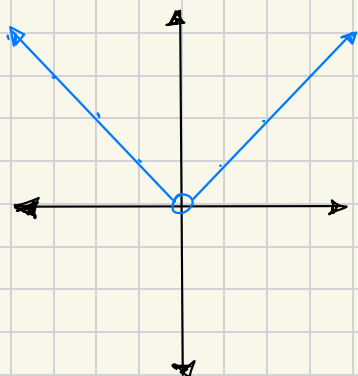


$$y =$$



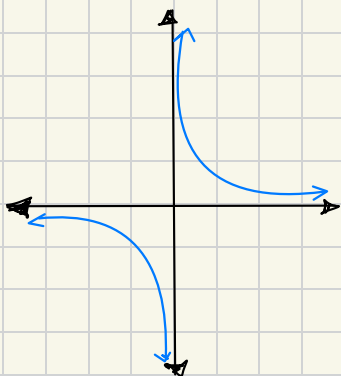
$$y =$$

EXAMPLES OF GRAPHS WITH DISCONTINUITIES

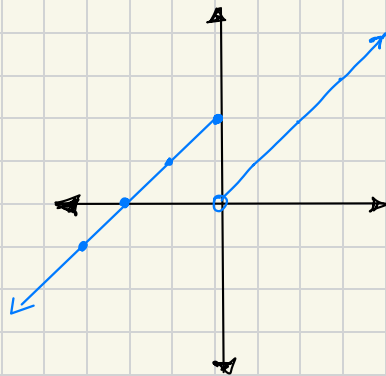


$$y =$$

THIS IS THE ONLY EXAMPLE OF A
DISCONTINUITY.



$$y =$$



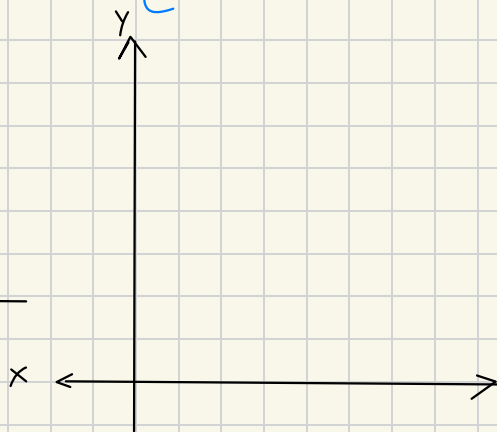
$$y = \{ \}$$

EX. 12

GRAPH

$$y = \begin{cases} \frac{1}{x}, & 0 < x < 1 \\ \sqrt{x}, & x \geq 1 \end{cases}$$

IS THIS GRAPH CONTINUOUS? _____



EX. 13

GRAPH

$$y = \begin{cases} 4 - x^2, & x < 2 \\ x^2, & x \geq 2 \end{cases}$$

IS THIS GRAPH CONTINUOUS? _____

