

# **Functions, Limits, Derivatives**

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Michelle Krummel

## **Learning Outcomes:**

Identify properties

Hello

# Title Name of My Slide

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1. This is item number one
2. this is item number two

# TITLE

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XXX

# Functions

## Definition of a Function

TEXT

Set  $D$  is called the \_\_\_\_\_ of the function.

Set  $E$  is called the \_\_\_\_\_ of the function.

# Functions

## Definition of a Function

TEXT

Set  $D$  is called the **domain** of the function.

Set  $E$  is called the **range** of the function.

# Your Very First Flash Card

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

1.  $x$
2.  $-x$
3.  $|x|$
4. undefined

# Your Very First Flash Card

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

- (A)  $x$
- (B)  $-x$
- (C)  $|x|$
- (D) undefined

# Your Very First Flash Card

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XXX

XXX

# Your Very First Flash Card

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- (A)  $x$
- (B)  $-x$
- (C)  $|x|$
- (D) undefined

# Your Very First Flash Card

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# Your Very First Flash Card

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$$\sqrt{x^2} = \begin{cases} -x, & x < 0 \\ x, & x \geq 0 \end{cases}$$



## Parent Functions

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You should be able to identify by name and sketch a graph of each of the following parent functions.

1.  $y = x$
2.  $y = |x|$

## Parent Functions

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1.  $y = x$

2.  $y = |x|$

3.  $y = x^2$

## Parent Functions

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You should be able to identify by name and sketch a graph of each of the following parent functions.

1.  $y = x$

6.  $y = \sqrt{x}$

11.  $y = \ln x$

2.  $y = |x|$

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

12.  $y = \frac{1}{1+e^{-x}}$

3.  $y = x^2$

8.  $y = \frac{1}{x}$

13.  $y = \sin x$

4.  $y = x^3$

9.  $y = 2^x$

14.  $y = \cos x$

5.  $y = x^b$

10.  $y = e^x$

15.  $y = \tan x$

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**XXX**

**Homework: p.342 #7-21**