

# 13 Topic: Relations & Functions

Content Area: **Mathematics**  
Course(s): **Algebra 2**  
Time Period: **Semester 2**  
Length: **2-3weeks**  
Status: **Published**

## Standards

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MA.F-IF.A.1	Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If $f$ is a function and $x$ is an element of its domain, then $f(x)$ denotes the output of $f$ corresponding to the input $x$ . The graph of $f$ is the graph of the equation $y = f(x)$ .
MA.F-IF.A.2	Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.
MA.F-IF.B.4	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.
MA.F-IF.B.5	Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.

## Enduring Understandings

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1. Mathematics is a language consisting of symbols and rules.
2. The same mathematical ideas can be represented concretely or symbolically.
3. There can be different strategies to solve a problem, but some are more effective and efficient than others.

## Essential Questions

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- How will the student tell if a relation is a function?
- How will the student find the domain and range?
- How will the student perform operations with functions?
- How will the student find the inverse of a function?
- How will the student find the zeros and domains of rational functions?
- How will students graph functions and their inverses?

## **Knowledge and Skills**

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Understand Domain

Understand Range

Understand Relation

Understand Function

Understand Inverse

Find the Value of a function

Find the Relation/Function Composition

Understand Roster Definition of relation/function

Map a relation/function

Understand  $F(x)$  definition of a function

Determine the Domain of a Relation or Function

Determine the Range of a Relation or Function

Determine if a relation is a Function

Find the Inverse relation/function

Evaluate a relation/function

Graph Functions

## **Transfer Goals**

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Using mathematical reasoning and strategic thinking can allow for practical solutions of many problems.

Often unique vocabulary and implementation methods are needed to solve problems.

## **Resources**

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1. McDougal/Littell - Algebra & Trigonometry Structure & Method Book 2

2. Aufmann/Barker/Lockwood - Intermediate Algebra with Applications Sixth Edition
3. Houghton/Mifflin/Harcourt - On Core Mathematics Algebra 2
4. Holt - Algebra 2 with Trigonometry
5. Larson/Boswell - Big Ideas Math: Algebra 2 Texas Edition
6. [Khan Academy](#)
7. [PurpleMath](#)
8. [KutaSoftware](#)
9. [CK-12](#)
10. [Quizlet](#)
11. [Albert I/O](#)
12. [Desmos](#)
13. [Problem Attic](#)