

keep scrolling to get a sneak peak!

This set of guided notes will walk Algebra 2 students through graphing radical functions. All you need to do is print & make copies for your students!

GRAPHING RADICAL FUNCTIONS

Algebra 2 Guided Notes

GRAPHING RADICAL FUNCTIONS

Parent radical functions

Function	Graph
Square Root Function	
Cube Root Function	

Equation: _____
Domain: _____
Range: _____

GRAPHING RADICAL FUNCTIONS

Directions: Graph the function. Identify the domain & range of the function.
 $f(x) = -\sqrt[3]{x}$

x	-8	-1	0	1	8
y	2	1	0	-1	-2

Domain: $(-\infty, \infty)$
Range: $(-\infty, \infty)$

GRAPHING RADICAL FUNCTIONS

Directions: Graph the function. Identify the domain & range of the function.
 $f(x) = \sqrt{x+2}$

x	-2
y	0

Answer key included

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why do you need this?



It's simple and done-for-you! Just print and make copies!



Students can work on essential Algebra 2 skills.



Aligns to CCSS, TEKS, and VA SOLs!



Suggested and detailed answer keys are included for you!

Algebra 2 Guided Notes Graphing Radical Functions

GRAPHING RADICAL FUNCTIONS

Parent radical functions

Square Root Function

Equation: $f(x) = \sqrt{x}$

Domain: _____

Range: _____

x					
y					

Directions: Graph the function. Identify the domain & range of the function.

GRAPHING RADICAL FUNCTIONS

Directions: Graph the function. Identify the domain & range of the function.

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GRAPHING RADICAL FUNCTIONS

Directions: Graph the function. Identify the domain & range of the function.

$f(x) = \sqrt{x+2}$

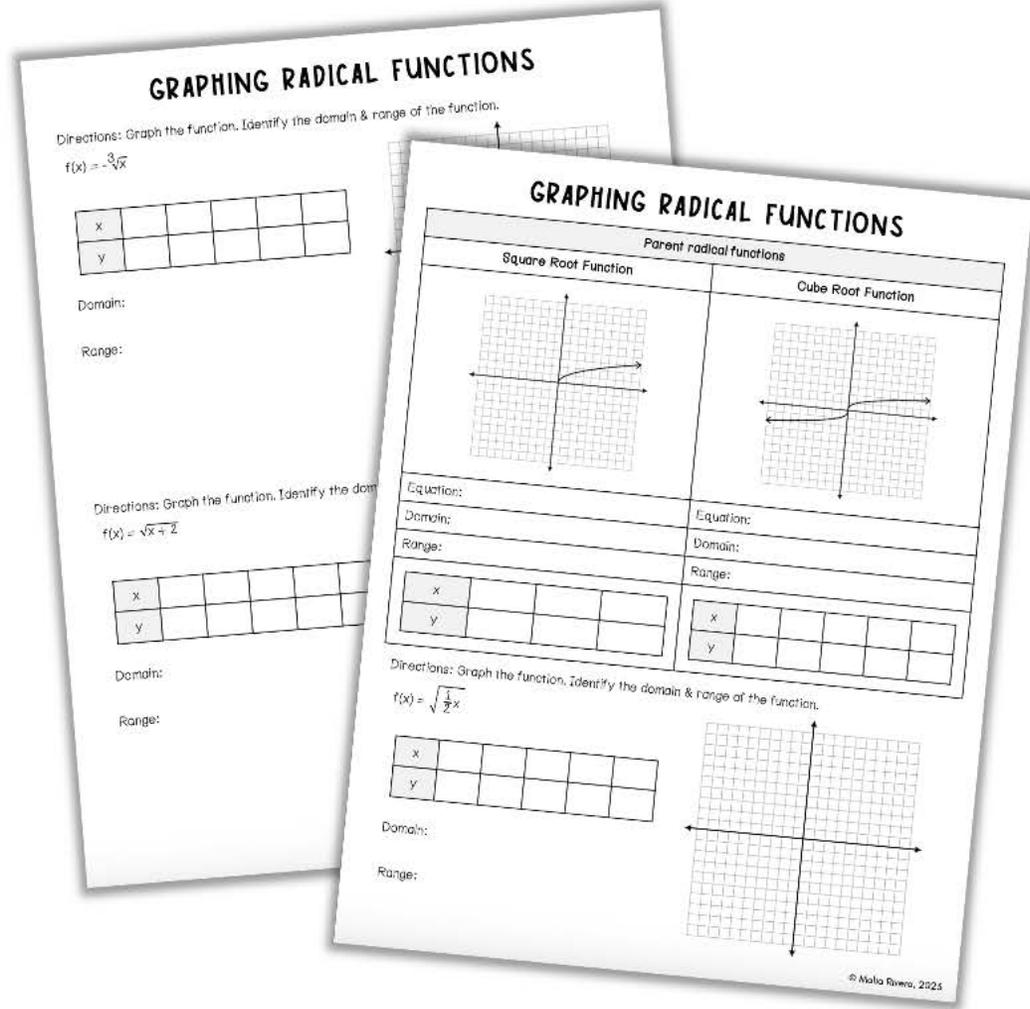
x					
y					

Domain: _____

Range: _____

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Algebra 2 Guided Notes: Graphing Radical Functions *includes:*



- ✓ 2 pages of guided notes
- ✓ Graphing Square Root Functions
- ✓ Graphing Cube Root Functions
- ✓ Graphing Using Tables
- ✓ Domain and Range of Square Root and Cube Root Functions

Algebra 2 Guided Notes: Graphing Radical Functions *includes:*

✓ Detailed answer keys

CCSS: HSF-IF.C.7b

TEKS: A2.4.E

VA SOL: EO.A11.6.a, EO.A11.7a, EO.A11.7g

GRAPHING RADICAL FUNCTIONS

Parent radical functions

Square Root Function	Cube Root Function

Equation: $f(x) = \sqrt{x}$

Domain: $[0, \infty)$

Range: $[0, \infty)$

x	0	1	4
y	0	1	2

Directions: Graph the function. Identify the domain & range of the function.

$f(x) = \sqrt{\frac{1}{2}x}$

x	0	2	8	18	32
y	0	1	2	3	4

Domain: $[0, \infty)$

GRAPHING RADICAL FUNCTIONS

Directions: Graph the function. Identify the domain & range of the function.

$f(x) = -\sqrt[3]{x}$

x	-8	-1	0	1	8
y	2	1	0	-1	-2

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

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

Directions: Graph the function. Identify the domain & range of the function.

$f(x) = \sqrt{x+2}$

x	-2	-1	2	7	14
y	0	1	2	3	4

Domain: $[-2, \infty)$

Check out what *other teachers* are saying:



"This was great practice for my Algebra II students after I presented the lesson. Next Year, I may use them as notes."

- Vonda B.



"Great resource for what we were currently covering in precalc!"

- Megan M.



"I used this in conjunction with another document, but this would have worked fine on its own. The students found it much easier to understand the concept using these guided notes."

- Cheryl W.

You may also enjoy ...

TRANSFORMATIONS OF RADICAL FUNCTIONS

Algebra 2 Guided Notes

Transformation	f(x) Notation	In Words
Reflection	$f(-x)$	
Vertical Dilation	$af(x)$ $0 < a < 1$	
Horizontal Dilation	$f(bx)$ $0 < b < 1$	
Vertical Translation	$f(x) + k$	
Horizontal Translation	$f(x - h)$	

TRANSFORMATIONS OF RADICAL

2. Directions: Describe the transformation of $f(x)$ represented by $g(x)$.

$f(x) = \sqrt[3]{x}$
 $g(x) = 2\sqrt[3]{x-4} - 2$

- vertical stretch by 2
- horizontal shift right 4 units
- vertical shift down 2 units

x	-4	-3	-2	-1	0	1	2
y	-4	-4	-2	0	2	4	8

Domain: $(-\infty, \infty)$
 Range: $(-\infty, \infty)$

3. Directions: Let the graph of $g(x)$ be a horizontal compression by a factor of 3 and a translation of 3 units left of the graph of $f(x) = \sqrt[3]{x}$. Write a rule for $g(x)$.

$g(x) = f(3(x+3))$

Answer key included

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SIMPLIFYING RATIONAL EXPRESSIONS

Algebra 2 Guided Notes

SIMPLIFYING RATIONAL EXPRESSIONS

A ratio of two polynomials. EX: $f(x) = \frac{p(x)}{q(x)}$

Steps for Simplifying Rational Expressions

- Step 1: Simplify the numerator and denominator by factoring.
- Step 2: Divide out the common factors if they appear in both the numerator and the denominator.

Property: $\frac{a \cdot \frac{c}{d}}{b \cdot \frac{c}{d}} = \frac{a}{b}$

Answers should always be left in simplest form.

Directions: Simplify each of the following rational expressions.

- $\frac{6y-18}{5y^2-13y-6} \rightarrow \frac{6(y-3)}{(5y+2)(y-3)} = \frac{6}{5y+2}$
- $\frac{x^2-16}{x^2-6x+8} \rightarrow \frac{(x+4)(x-4)}{(x-2)(x-4)} = \frac{x+4}{x-2}$

Answer key included

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MULTIPLYING & DIVIDING RATIONAL EXPRESSIONS

Algebra 2 Guided Notes

MULTIPLYING RATIONAL EXPRESSIONS

Steps for Multiplying Rational Expressions

- Step 1: Factor each rational expression.
- Step 2: Divide out common factors in the numerator and denominator.
- Step 3: Multiply straight across.
- Step 4: Simplify if possible.

Property: $\frac{a}{b} \cdot \frac{c}{d} = \frac{a \cdot c}{b \cdot d}$

Directions: Multiply each of the following rational expressions.

- $\frac{4xy^2}{-3y} \cdot \frac{2x}{4y} = \frac{4xy^2 \cdot 2x}{-3y \cdot 4y} = \frac{8x^2y}{-12y^2} = -\frac{2x^2}{3y}$

DIVIDING RATIONAL EXPRESSIONS

Steps for Dividing Rational Expressions

- Step 1: Change the problem to reciprocal.
- Step 2: Simplify the both numerator and denominator.
- Step 3: Multiply straight across.
- Step 4: Simplify if possible.

Property: $\frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \cdot \frac{d}{c}$

Directions: Divide each of the following rational expressions.

- $\frac{3n}{n-6} \div \frac{4n}{8n-48} = \frac{3n}{n-6} \cdot \frac{8n-48}{4n} = \frac{3n}{n-6} \cdot \frac{8(n-6)}{4n} = \frac{3n}{n-6} \cdot \frac{2(n-6)}{n} = \frac{6n}{n} = 6$

Answer key included

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Check out the *year-long bundle!*

ALGEBRA 2 GUIDED NOTES Year-Long Bundle

TRANSFORMATIONS OF FUNCTIONS

Type of Transformation	$f(x)$ Notation
Reflection	$-f(x)$
Vertical Dilation	$af(x)$ $0 < a < 1$ $ a > 1$
Horizontal Dilation	$f(bx)$ $0 < b < 1$ $ b > 1$
Vertical Translation	$f(x) + k$

LINEAR REGRESSION

SCATTER PLOT
Definition: A graph of _____ points that are _____

SCATTER PLOT RELATIONSHIPS

LINE OF BEST FIT
Definition: A line that _____ as close as possible to all _____

LINEAR REGRESSION
Definition: A linear model that is used to _____ between two variables.

LINEAR INTERSECTIONS
Estimating Slope: _____
Slope: _____
Y-intercept: _____

GRAPHING QUADRATIC TRANSFORMS

Reflection over the x-axis: _____

COMPOSITION OF FUNCTIONS

Definition: To make the _____ another function.

Things to remember:

- Always start with the _____ the function on the _____
- Tag does not always equal _____

$(f \circ g)(x) = \dots$ is _____

$g(x) = 2x + 3$ and $f(x) = x^2$, find $(f \circ g)(x)$

$g(x) = 2x + 3$ and $f(x) = x^2$, find $(f \circ g)(x)$

COMPOUND INEQUALITIES

Compound inequality has two separate inequalities joined by _____

Graph of a compound inequality with "and" of the graphs of the inequalities.

$x > -8$

POLYNOMIAL FUNCTION CHARACTERISTICS

Multiplicities	Touch	Inflection

RELATIVE EXTREMA (Minimum or Maximum)
Points on the graph that help to describe the _____ of a function. They are also called _____ or _____.

INCREASING INTERVALS
The interval between _____ y-values _____ as the x-value _____.

DECREASING INTERVALS
The interval between _____ y-values _____ as the x-value _____.

POSITIVE INTERVALS
Intervals where _____

PROPERTIES OF RATIONAL EXPONENTS & RADICALS

Property	Properties of Rational Exponents
Product of Powers	Definition
Power of a Power	
Power of a Product	
Negative Exponent	
Zero Exponent	
Quotient of Powers	
Power of a Quotient	

Directions: Use the properties of rational exponents to simplify: $1. (y^{1/2} \cdot y^{1/3})^2$

Answer key included

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hey there!

My name is Malia and I'm passionate about making learning and practicing math fun. I love creating engaging math resources for my students and I hope your students enjoy these Graphing Radical Functions guided notes for Algebra 2 that can be used all year long!

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