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get a sneak peek!

Help your Algebra 1 students practice **simplifying square roots with variables**. Your students will benefit from being given choice when it comes to how they want to practice math!

SIMPLIFYING RADICAL EXPRESSIONS

Choice Board

Name: _____ Date: _____

ANSWER KEY

Simplifying Radical Expressions Choice Board

Directions: Choose _____ problems from each column. Show your work in the _____

$\sqrt{256t^8}$	$\sqrt{72a^2}$ $\sqrt{36 \cdot 2 \cdot a^2}$ $\sqrt{36} \sqrt{2} \sqrt{a^2}$ $6 \sqrt{2} a$ $6a\sqrt{2}$	$\sqrt{256t^8}$ $\sqrt{256} \sqrt{t^8}$ $16t^4$
$\sqrt{192x^2y^3z^4}$	$\sqrt{320u^3v}$ $\sqrt{64 \cdot 5 \cdot u^3v}$ $\sqrt{64} \sqrt{5} \sqrt{u^3v}$ $8\sqrt{5} u\sqrt{uv}$ $8u\sqrt{5uv}$	$\sqrt{192x^2y^3z^4}$ $\sqrt{64 \cdot 3 \cdot x^2y^3z^4}$ $\sqrt{64} \sqrt{3} \sqrt{x^2} \sqrt{y^3} \sqrt{z^4}$ $8\sqrt{3} x y \sqrt{z^2}$ $8xy\sqrt{3z^2}$
$\sqrt{48x^3y^6z^7}$	$\sqrt{216x^2y^3}$ $\sqrt{36 \cdot 6 \cdot x^2y^3}$ $\sqrt{36} \sqrt{6} \sqrt{x^2} \sqrt{y^3}$ $6\sqrt{6} x y \sqrt{y}$	$\sqrt{48x^3y^6z^7}$ $\sqrt{16 \cdot 3 \cdot x^3y^6z^7}$ $\sqrt{16} \sqrt{3} \sqrt{x^3} \sqrt{y^6} \sqrt{z^7}$ $4\sqrt{3} x y^3 \sqrt{z^7}$

Math with Ms. Rivera

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Why do you need this?



Allowing student choice in how they practice will encourage them to do the practice!



You can differentiate by the number of problems required of particular students.

Simplifying Square Roots with Variables Choice Board

Name: _____ Date: _____ Period: _____

Simplifying Radical Expressions Choice Board

Directions: Choose _____ problems from each column. Show your work in the boxes below.

$\sqrt{72a^2}$	$\sqrt{256t^8}$	$\sqrt{75x^5y^4}$
$\sqrt{320u^3v}$	$\sqrt{192x^2y^3z^4}$	$\sqrt{256t^8}$
$\sqrt{216x^2y^3}$	$\sqrt{48x^3y^6z^7}$	$\sqrt{144}$
$\sqrt{80a^3b}$	$\sqrt{18x^4}$	$\sqrt{144}$
$\sqrt{108m^2}$	$\sqrt{384a^4b^4}$	$\sqrt{144}$

ANSWER KEY

Name: _____ Date: _____ Period: _____

Simplifying Radical Expressions Choice Board

Directions: Choose _____ problems from each column. Show your work in the boxes below.

$\sqrt{72a^2}$ $\sqrt{36 \cdot 2 \cdot a^2}$ $\sqrt{36} \sqrt{2} \sqrt{a^2}$ $6 \sqrt{2} a$ $6a\sqrt{2}$	$\sqrt{256t^8}$ $\sqrt{256} \sqrt{t^8}$ $16t^4$	$\sqrt{75x^5y^4}$ $\sqrt{25 \cdot 3 \cdot x^4 \cdot y^4}$ $\sqrt{25} \sqrt{3} \sqrt{x^4} \sqrt{y^4}$ $5 \sqrt{3} x^2 y^2$ $5x^2y^2\sqrt{3}$
$\sqrt{320u^3v}$ $\sqrt{64 \cdot 5 \cdot u^2 \cdot v}$ $\sqrt{64} \sqrt{5} \sqrt{u^2} \sqrt{v}$ $8 \sqrt{5} u \sqrt{u} \sqrt{v}$ $8u^2\sqrt{5v}$	$\sqrt{192x^2y^3z^4}$ $\sqrt{64 \cdot 3 \cdot x^2 \cdot y^3 \cdot z^4}$ $\sqrt{64} \sqrt{3} \sqrt{x^2} \sqrt{y^3} \sqrt{z^4}$ $8 \sqrt{3} x y z^2$ $8xy^2z^2\sqrt{3}$	$\sqrt{144}$ $\sqrt{144}$ 12
$\sqrt{216x^2y^3}$ $\sqrt{36 \cdot 6 \cdot x^2 \cdot y^3}$ $\sqrt{36} \sqrt{6} \sqrt{x^2} \sqrt{y^3}$ $6 \sqrt{6} x y \sqrt{y}$ $6xy\sqrt{6y}$	$\sqrt{48x^3y^6z^7}$ $\sqrt{16 \cdot 3 \cdot x^2 \cdot y^6 \cdot z^7}$ $\sqrt{16} \sqrt{3} \sqrt{x^2} \sqrt{y^6} \sqrt{z^7}$ $4 \sqrt{3} x y^3 z^3 \sqrt{z}$ $4xy^3z^3\sqrt{3z}$	$\sqrt{144}$ $\sqrt{144}$ 12
$\sqrt{80a^3b}$ $\sqrt{16 \cdot 5 \cdot a^2 \cdot b}$ $\sqrt{16} \sqrt{5} \sqrt{a^2} \sqrt{b}$ $4 \sqrt{5} a \sqrt{a} \sqrt{b}$ $4a\sqrt{5ab}$	$\sqrt{18x^4}$ $\sqrt{9 \cdot 2 \cdot x^4}$ $\sqrt{9} \sqrt{2} \sqrt{x^4}$ $3 \sqrt{2} x^2$ $3x^2\sqrt{2}$	$\sqrt{144}$ $\sqrt{144}$ 12
$\sqrt{108m^2}$ $\sqrt{36 \cdot 3 \cdot m^2}$ $\sqrt{36} \sqrt{3} \sqrt{m^2}$ $6 \sqrt{3} m$ $6m\sqrt{3}$	$\sqrt{384a^4b^4}$ $\sqrt{64 \cdot 6 \cdot a^4 \cdot b^4}$ $\sqrt{64} \sqrt{6} \sqrt{a^4} \sqrt{b^4}$ $8 \sqrt{6} a^2 b^2$ $8a^2b^2\sqrt{6}$	$\sqrt{144}$ $\sqrt{144}$ 12

Simplifying Radicals with Variables Choice Board *includes:*

Name: _____ Date: _____ Period: _____

Simplifying Radical Expressions Choice Board

Directions: Choose _____ problems from each column. Show your work in the boxes below.

$\sqrt{72a^2}$	$\sqrt{256t^8}$	$\sqrt{75x^5y^4}$
$\sqrt{320u^3v}$	$\sqrt{192x^2y^3z^4}$	$\sqrt{144n^2}$
$\sqrt{216x^2y^3}$	$\sqrt{48x^3y^6z^7}$	$\sqrt{27hj^{12}k^9}$

- ✓ printable worksheet
- ✓ a detailed answer key
- ✓ 3 columns with 5 questions in each - 15 question total
- ✓ Spot to assign how many problems students need to complete

Simplifying Radicals with Variables Choice Board

standards covered:

CCSS: HSA-RN.A.2

TEKs: A1.11.A

VA SOLs: EO.A.3.a

Name: _____ Date: _____ Period: _____

ANSWER KEY

Simplifying Radical Expressions Choice Board

Directions: Choose _____ problems from each column. Show your work in the boxes below.

$\sqrt{72a^2}$ $\sqrt{36 \cdot 2 a^2}$ $\sqrt{36} \sqrt{2} \sqrt{a^2}$ $6 \sqrt{2} a$ $\boxed{6a\sqrt{2}}$	$\sqrt{256t^8}$ $\sqrt{256} \sqrt{t^8}$ $\boxed{16t^4}$	$\sqrt{75x^5y^4}$ $\sqrt{25 \cdot 3 x^3 y^4}$ $\sqrt{25} \sqrt{3} \sqrt{x^3} \sqrt{y^4}$ $5 \sqrt{3} x \sqrt{x} y^2$ $\boxed{5x^2y^2\sqrt{3x}}$
$\sqrt{320u^3v}$ $\sqrt{64 \cdot 5 u^3 v}$ $\sqrt{64} \sqrt{5} \sqrt{u^3} \sqrt{v}$ $8 \sqrt{5} u \sqrt{u} \sqrt{v}$ $\boxed{8u^2\sqrt{5uv}}$	$\sqrt{192x^2y^3z^4}$ $\sqrt{64 \cdot 3 x^2 y^3 z^4}$ $\sqrt{64} \sqrt{3} \sqrt{x^2} \sqrt{y^3} \sqrt{z^4}$ $8 \sqrt{3} x y \sqrt{y} z^2$ $\boxed{8xy^2\sqrt{3y}}$	$\sqrt{144n^2}$ $\sqrt{144} \sqrt{n^2}$ $\boxed{12n}$
$\sqrt{216x^2y^3}$ $\sqrt{36 \cdot 6 x^2 y^3}$ $\sqrt{36} \sqrt{6} \sqrt{x^2} \sqrt{y^3}$ $6 \sqrt{6} x y \sqrt{y}$ $\boxed{6xy\sqrt{6y}}$	$\sqrt{48x^3y^6z^7}$ $\sqrt{16 \cdot 3 x^3 y^6 z^7}$ $\sqrt{16} \sqrt{3} \sqrt{x^3} \sqrt{y^6} \sqrt{z^7}$ $4 \sqrt{3} x \sqrt{x} y^3 \sqrt{z^7}$ $\boxed{4x^2y^3\sqrt{3xz^7}}$	$\sqrt{27hj^{12}k^9}$ $\sqrt{9 \cdot 3 h j^{12} k^9}$ $\sqrt{9} \sqrt{3} \sqrt{h^{12}} \sqrt{k^9}$ $3 \sqrt{3} h^6 \sqrt{k^9}$ $\boxed{3\sqrt{3}h^6\sqrt{k^9}}$

how the choice board resource works

Name: _____ Date: _____ Period: _____

Simplifying Radical Expressions Choice Board

Directions: Choose _____ problems from each column. Show your work in the boxes below.

$\sqrt{72a^2}$	$\sqrt{256t^8}$	$\sqrt{75x^5y^4}$
$\sqrt{320u^3v}$	$\sqrt{192x^2y^3z^4}$	$\sqrt{144n^2}$
$\sqrt{216x^2y^3}$	$\sqrt{48x^3y^6z^7}$	$\sqrt{27hj^{12}k^9}$
$\sqrt{80a^3b}$	$\sqrt{18x^4}$	$\sqrt{150xy^3z^8}$

Assign students the number of problems they need to complete from each column.

Differentiate the choice board worksheet by reducing the number of problems assigned to show mastery.

Students can complete the any problems they want to in each column and in any order.

how to use this resource

This is a great individual practice activity to use when reviewing how to simplify square root radical expressions with variables.

My favorite ways to use this choice board is for homework and math practice stations.

This is also a **substitute-friendly** assignment!

Name: _____ **ANSWER KEY** _____ Date: _____ Period: _____

Simplifying Radical Expressions Choice Board

Directions: Choose _____ problems from each column. Show your work in the boxes below.

$\sqrt{72a^2}$ $\sqrt{36 \cdot 2 \cdot a^2}$ $\sqrt{36} \sqrt{2} \sqrt{a^2}$ $6 \sqrt{2} a$ $\boxed{6a\sqrt{2}}$	$\sqrt{256t^8}$ $\sqrt{256} \sqrt{t^8}$ $\boxed{16t^4}$	$\sqrt{75x^5y^4}$ $\sqrt{25 \cdot 3 \cdot x^4 \cdot y^4}$ $\sqrt{25} \sqrt{3} \sqrt{x^4} \sqrt{y^4}$ $5 \sqrt{3} x^2 y^2$ $\boxed{5x^2y^2\sqrt{3x}}$
$\sqrt{320u^3v}$ $\sqrt{64 \cdot 5 \cdot u^3 \cdot v}$ $\sqrt{64} \sqrt{5} \sqrt{u^3} \sqrt{v}$ $8 \sqrt{5} u \sqrt{u} \sqrt{v}$ $\boxed{8u\sqrt{5uv}}$	<p>Name: _____ Date: _____ Period: _____</p> <p><i>Simplifying Radical Expressions Choice Board</i></p> <p>Directions: Choose _____ problems from each column. Show your work in the boxes below.</p>	
$\sqrt{216x^2y^3}$ $\sqrt{36 \cdot 6 \cdot x^2 \cdot y^3}$ $\sqrt{36} \sqrt{6} \sqrt{x^2} \sqrt{y^3}$ $6 \sqrt{6} x y \sqrt{y}$ $\boxed{6xy\sqrt{6y}}$	$\sqrt{72a^2}$	$\sqrt{256t^8}$
$\sqrt{80a^3b}$ $\sqrt{16 \cdot 5 \cdot a^3 \cdot b}$ $\sqrt{16} \sqrt{5} \sqrt{a^3} \sqrt{b}$ $4 \sqrt{5} a \sqrt{a} \sqrt{b}$ $\boxed{4a\sqrt{5ab}}$	$\sqrt{320u^3v}$	$\sqrt{144n^2}$
$\sqrt{108m^2}$ $\sqrt{36 \cdot 3 \cdot m^2}$ $\sqrt{36} \sqrt{3} \sqrt{m^2}$ $6 \sqrt{3} m$	$\sqrt{216x^2y^3}$	$\sqrt{48x^3y^6z^7}$
		$\sqrt{27hj^{12}k^9}$

You may also enjoy ...

SIMPLIFYING RADICALS SQUARES & CUBES Choice Board

ANSWER KEY

Directions: Choose _____ problems from each column. Show your work in the boxes.

Cube Roots	Simplifying with Coefficients	Square Roots	Cube Roots
$\sqrt[3]{72}$	$\sqrt[3]{-162}$	$\sqrt{48}$ $\sqrt{16 \cdot 3}$ $\sqrt{16} \sqrt{3}$ $4\sqrt{3}$	$\sqrt[3]{72}$ $\sqrt[3]{8 \cdot 9}$ $\sqrt[3]{8} \sqrt[3]{9}$ $2\sqrt[3]{9}$
$\sqrt[3]{-864}$	$9\sqrt[3]{576}$	$\sqrt{700}$ $\sqrt{7 \cdot 100}$ $\sqrt{7} \sqrt{100}$ $10\sqrt{7}$	$\sqrt[3]{-864}$ $\sqrt[3]{-216 \cdot 4}$ $\sqrt[3]{-216} \sqrt[3]{4}$ $-6\sqrt[3]{4}$
$\sqrt[3]{-216}$	$-3\sqrt[3]{-243}$	$\sqrt{224}$ $\sqrt{16 \cdot 14}$ $\sqrt{16} \sqrt{14}$ $4\sqrt{14}$	$\sqrt[3]{-243}$ $\sqrt[3]{-27 \cdot 9}$ $\sqrt[3]{-27} \sqrt[3]{9}$ $-3\sqrt[3]{9}$

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SIMPLIFYING RADICALS WITH VARIABLES Digital & Printable

Simplifying Monomial Radicals

Directions: When typing your answer, make sure to put your variables in alphabetical order. To put an exponent use " ". If your answer is correct, the box will turn green. If you answer incorrectly, the box will turn red.

$\sqrt{10x^2}$	$\sqrt{800x^3y^2z^5}$	$\sqrt{228x^4yz^3}$	$\sqrt{147x^2y^3z^5}$	$\sqrt{144x^4}$
$\sqrt{125x}$	$\sqrt{32xy^3z^8}$	$\sqrt{220xy^2}$	$\sqrt{360xy^4z^4}$	$\sqrt{72xy^2z^2}$
$\sqrt{81xy^2}$	$\sqrt{48x^3y^4z^4}$	$\sqrt{60x^3y^2z^8}$	$\sqrt{10x^5y^3}$	$\sqrt{8x^3y^2z^3}$
$\sqrt{36x^2y^3}$	$\sqrt{12y^2z}$	$\sqrt{48x^2yz^10}$	$\sqrt{216x^4y^4z^2}$	$\sqrt{27x^3y^2z^2}$

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SIMPLIFYING RADICALS WITH VARIABLES Digital & Print Activity Pack

4 Activities

Simplifying Monomial Radicals with Variables

Directions: Put each monomial into simplest radical form.

Simplifying Radical Expressions with Variables

Directions: Simplify each radical into simplest radical form. Find your answer in the answer bank. Type the corresponding letter in the column. If you are correct, it will turn green. If you are incorrect, it will turn red.

Answer Bank		
A $10x^2\sqrt{2}$	B $7x^2y^3\sqrt{3}$	C $4y^2\sqrt{5xy}$
D $5y^2\sqrt{3x}$	E $4xz^3\sqrt{6xy}$	F $8x^2\sqrt{2x}$
G $8x^4$	H $6\sqrt{3x}$	I $6x\sqrt{6}$
J $8x^2yz^4\sqrt{3y}$	K $6xy\sqrt{y}$	L $8xy^2\sqrt{2xy}$

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Free Algebra Activities!

When you join my email list, I'll send you a free Algebra print & digital self-checking activities. There is an Algebra 1 and Algebra 2 version!

You'll also be getting exclusive freebies and content to help your Algebra students be successful this school year!

check it out!

The image shows a collage of algebra worksheets and a digital tablet. The worksheets include:

- Answer Key** for **ADDING & SUBTRACTING RATIONAL EXPRESSIONS** with handwritten solutions like $\frac{2x-8}{x^2-10}$.
- MULTIPLYING & DIVIDING RATIONAL EXPRESSIONS** with handwritten solutions like $\frac{x^2-x+3x-6}{(x-1)(x-2)}$.
- SOLVING SYSTEMS OF EQUATIONS** with handwritten solutions like $y=2+5$, $y=7$, and $(2, 7)$.

The digital tablet displays a self-checking activity titled **Rational Expression Operations - Addition & Subtraction**. The directions are: "Answer each question and type the question number with the matching answer in the answer column to the right." The activity consists of a table with 8 questions and 8 answers, with a path of colored lines connecting the questions to their corresponding answers.

#	Question	Answer	Type the matching question numbers here
1	$\frac{5}{x} + \frac{3}{x+1}$	$\frac{2x+1}{x+2}$	
2	$\frac{2}{x+4} - \frac{x^2}{x^2-16}$	$-\frac{1}{x^2-1}$	
3	$\frac{x+2}{x^2+4x+4} + \frac{2x}{x+2}$	$\frac{2x^2+2x+5}{x^2+x-2}$	
4	$\frac{x}{x-2} + \frac{3}{x-1}$	$-\frac{x^2+2x-8}{x^2-16}$	
5	$\frac{x}{4x+8} - \frac{1}{x^2+2x}$	$\frac{8x+5}{x^2+1}$	
6	$\frac{x+2}{x-1} + \frac{x-1}{x+2}$	$\frac{x^2-3x+7}{x^2-4}$	
7	$\frac{2x+1}{x^2-4} + \frac{x-3}{x+2}$	$\frac{x^2+2x-6}{x^2-3x+2}$	
8	$\frac{x^2+2x}{x^2-1} - \frac{x+1}{x-1}$	$\frac{x-2}{4x}$	

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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 this activity too!

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