

keep scrolling to get
a sneak peek!

Help your Algebra 2 students
practice solving **nonlinear
systems of equations**.

Students will be eager to get
the self-checking benefits from
this digital pixel art activity!

NONLINEAR SYSTEMS OF EQUATIONS

Directions: Answer each question correctly and pixels will appear to reveal a picture!

#	Question	Answer
1	$y = x^2 + 2x - 3$ $y = -x + 3$	
2	$y = x^2 + 1$ $x + y = -10$	
3	$x^2 + y^2 = 25$ $x - y = 1$	
4	$y = x^2$ $y = 4x - 4$	
5	$x^2 + 2x + y = 1$ $x^2 - 3x - y = 7$	
6	$y = 2x^2 - 3x + 1$ $y = -x^2 + x + 7$	
7	$x^2 - y = -5$ $3x + y = -2$	
8	$x^2 + y^2 = 13$ $y = 2x + 1$	
9	$2x^2 + 3x + y = -4$ $-x^2 + x - y = 7$	
0	$x^2 + y^2 = 4$ $x^2 + y^2 = 9$	



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Self-Checking

Why do you need this?



It's self-checking! Your students will instantly know if they are correct or not.



Help your students practice this essential math skill.

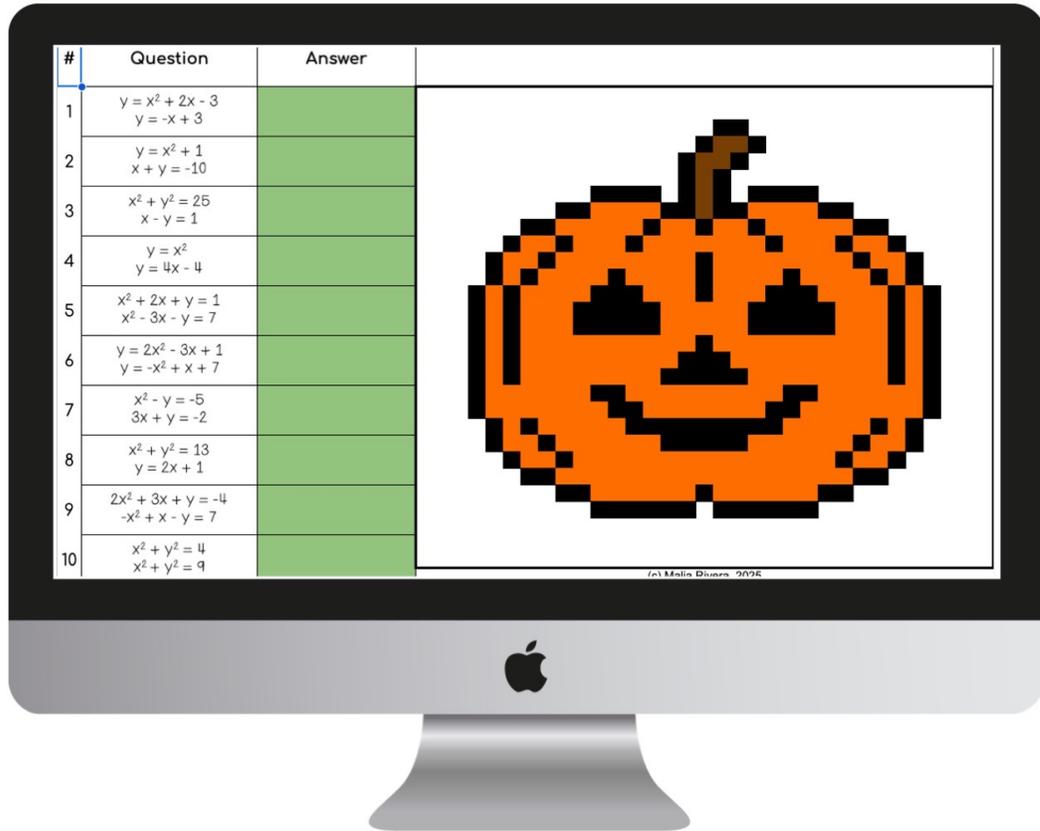


Your students will be so engaged trying to figure out what the picture is!

Nonlinear Systems of Equations Pixel Art

#	Question	Answer	
1	$y = x^2 + 2x - 3$ $y = -x + 3$		
2	$y = x^2 + 1$ $x + y = -10$		
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10	$x^2 + y^2 = 4$		

Nonlinear Systems of Equations Pixel Art includes:



- ✓ 10 self-checking problems
- ✓ an answer key
- ✓ a self-checking version
- ✓ an assessment version

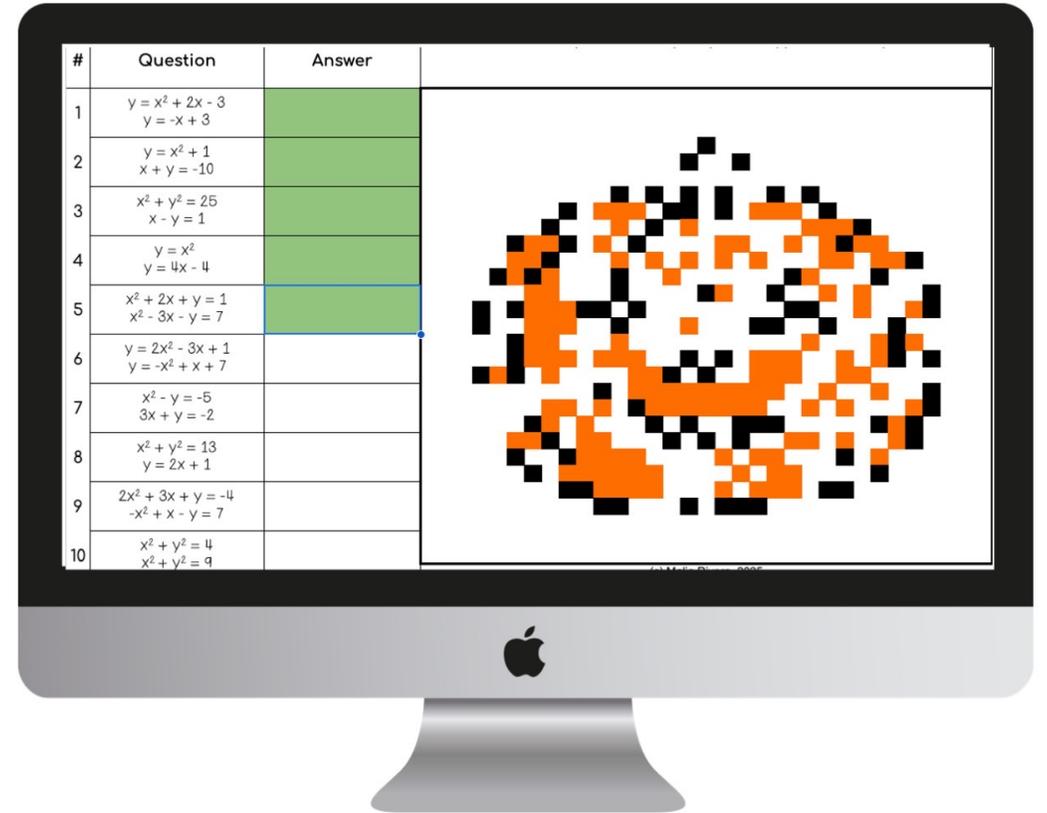
Nonlinear Systems of Equations Pixel Art

standards covered:

CCSS: HSA-REI.C.7, HSA-REI.D.10, HSA-REI.D.11

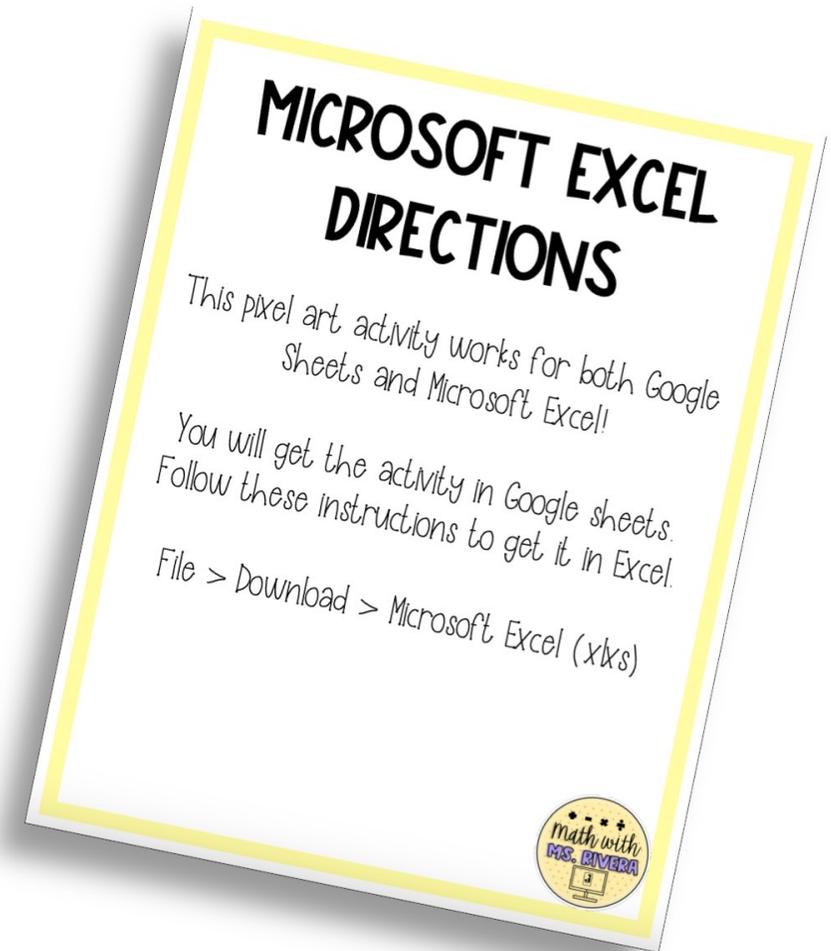
TEKs: A2.C.3

VA SOLs: EI.A11.4



Nonlinear Systems of Equations Pixel Art

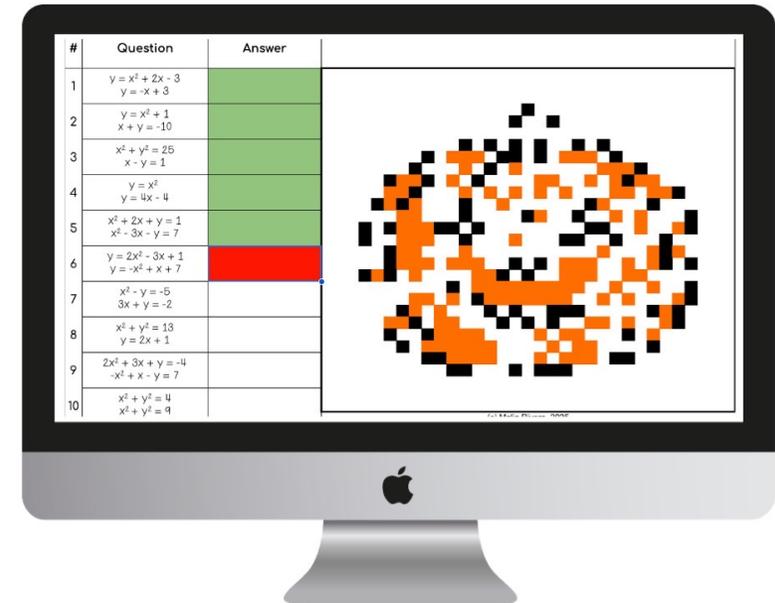
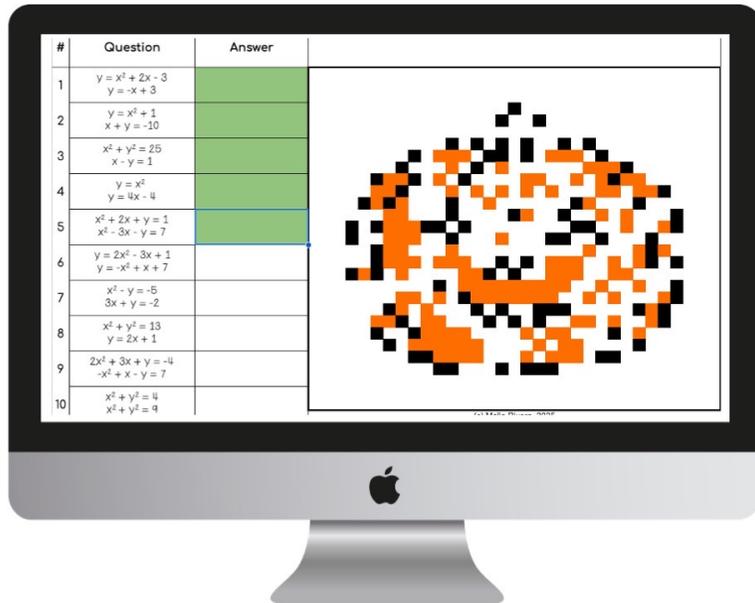
Can be used with Google Sheets
and Microsoft Excel
Directions included!



Nonlinear Systems of Equations Pixel Art

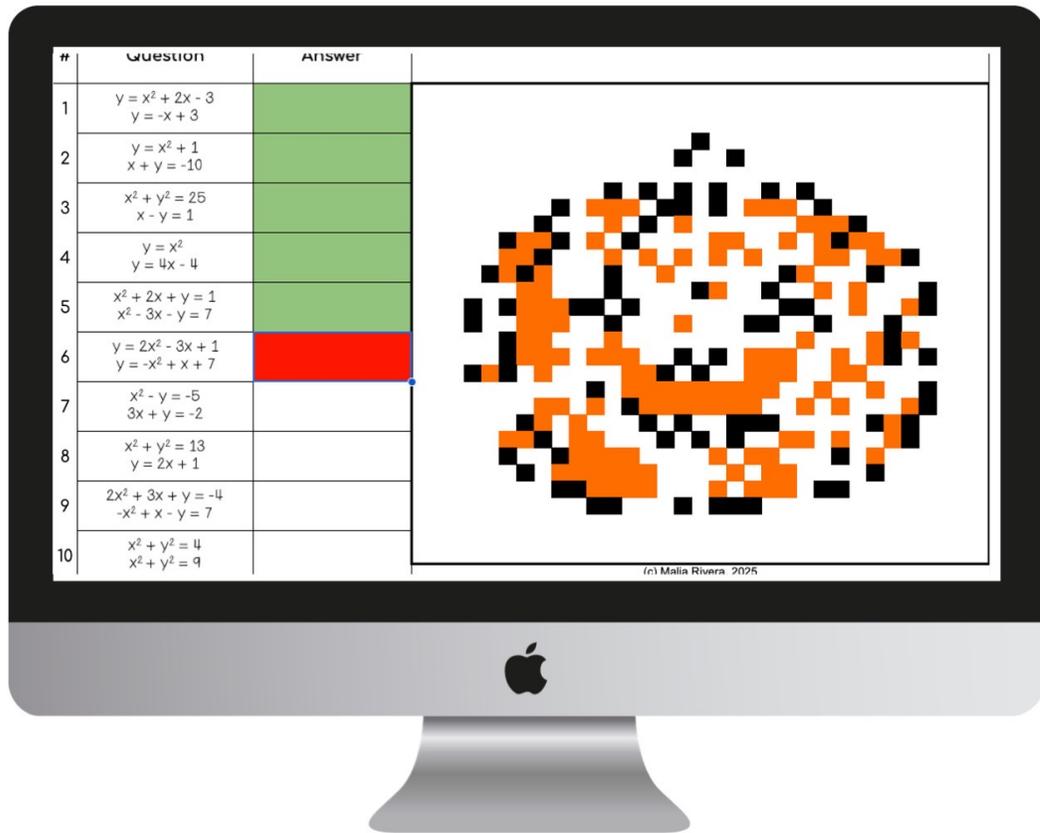
If they answer it correctly, some of the pixels will appear.

If they answer it incorrectly, the answer box will turn red & no pixels appear.



Your students will *love* trying to figure out what the picture is WHILE doing math!

how to use this resource



The monitor displays a worksheet with a table of 10 math problems. The table has two columns: 'Question' and 'Answer'. The 'Answer' column is mostly green, with the 6th row highlighted in red. To the right of the table is a large pixel art image of a cat's face, composed of black, orange, and white pixels. The cat is looking to the right. At the bottom of the pixel art, there is a small copyright notice: '(c) Malia Rivera, 2025'.

#	Question	Answer
1	$y = x^2 + 2x - 3$ $y = -x + 3$	
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8	$x^2 + y^2 = 13$ $y = 2x + 1$	
9	$2x^2 + 3x + y = -4$ $-x^2 + x - y = 7$	
10	$x^2 + y^2 = 4$ $x^2 + y^2 = 9$	

This is a great activity to use when reviewing how to solve **linear-quadratic and quadratic-quadratic** systems of equations. The solutions include: no solution, one solution, and two solutions.

It can be used right after teaching the concept or as homework.

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

You may also enjoy ...

NONLINEAR SYSTEMS OF EQUATIONS

Algebra 2 Guided Notes

AR SYSTEMS OF EQUATIONS

Solutions for Linear-Quadratic Systems of Equations

Types of Solutions for Quadratic-Quadratic Systems

no solution	1 solution
-------------	------------

Directions: Solve the system graphically.

$$x^2 + 5x - 1 = -x^2 + 2x + 1$$

$$EQ1: x^2 + 5x - 1 = y \quad 1 - 5 - 1$$

$$EQ2: -x^2 + 2x + 1 = y \quad 1 + 5 - 1$$

Solutions: $(-2, -7) + (0.5, 1.75)$

Answer key included

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QUADRATICS & COMPLEX NUMBERS

Algebra 2 Guided Notes

COMPLETING THE SQUARE

SOLVING QUADRATIC EQUATIONS BY

WRITING QUADRATIC EQUATION

Directions: Solve the quadratic equation by factoring.

$$x^2 - 3x + 18 = 0$$

$$(x-4)(x+4.5) = 0$$

$$x-4 = 0 \quad x+4.5 = 0$$

$$x = 4 \quad x = -4.5$$

Directions: Find the zeros of the function

$$f(x) = 2x^2 - 33x + 32$$

$$0 = 2x^2 - 33x + 32$$

$$0 = (2x-1)(x-32)$$

$$0 = (2x-1)(x-32)$$

$$2x-1 = 0 \quad x-32 = 0$$

$$2x = 1 \quad x = 32$$

$$x = \frac{1}{2} \quad x = 32$$

Answer key included

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SYSTEMS OF EQUATIONS IN 3 VARIABLES

#	Question	Answer
1	$x - 3y + 2z = -1$ $2x + 3y - z = 19$ $4x - 5y - z = 14$	
2	$x + y - z = -2$ $2x - y + z = 5$ $-x + 2y + 2z = 1$	
3	$-3x + 2y - 6z = -14$ $2x - 5y + 4z = 10$ $x + y + z = 4$	
4	$-3x + 5y + 2z = -14$ $6x - y + 4z = -5$ $4x - 2y + 2z = 2$	
5	$2x - 4y + 6z = -33$ $4x - y = -5$ $-2x + 2y - 3z = 14$	
6	$3x + 2y + z = 3$ $x - 3y + z = 4$ $-4x - 6y + 2z = 1$	
7	$x + 2y + z = -11$ $3x + 2y = 7$ $-x + 2y + 4z = 4$	
8	$x + y - z = -1$ $4x + 5y + 3z = -2$ $3x + 2y + z = 0$	
9	$x - 2y + z = 3$ $-3x + 5y - 3z = -4$ $4x - 6y + 4z = 12$	

Directions: Solve each system. Write your answer set so each answer is separated by a comma and NO spaces. EX: (x,y,z) Write as a fraction if necessary. Answer each question correctly and pixels will appear to reveal a picture!

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Self-Checking

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!

Answer Key
Name: _____ Date: _____
ADDING & SUBTRACTING RATIONAL EXPRESSIONS
Directions: Simplify each rational expression. Show your work.

Solving Systems of Equations
Name: _____ Date: _____
SOLVING SYSTEMS OF EQUATIONS
Directions: Solve each system of equations using substitution or elimination. Check your solution.

Multiplying & Dividing Rational Expressions
Name: _____ Date: _____
MULTIPLYING & DIVIDING RATIONAL EXPRESSIONS
Directions: Multiply or divide the rational expressions. Show your work.

Rational Expression Operations - Addition & Subtraction
Directions: Answer each question and type the question number with the matching answer in the answer column to the right.

#	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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