

# Radical Equations

Directions: Solve each equation. Identify matching answers in Column 1 and Column 2, then color the dinosaur accordingly. Start with the head.

Column 1

1.  $\sqrt{3x-17} + 2 = 7$

2.  $5\sqrt[3]{2x+11} = 15$

3.  $2 = \frac{1 + \sqrt{29 - 4x}}{-3}$

4.  $2(12p + 28)^{\frac{1}{4}} - 15 = -7$

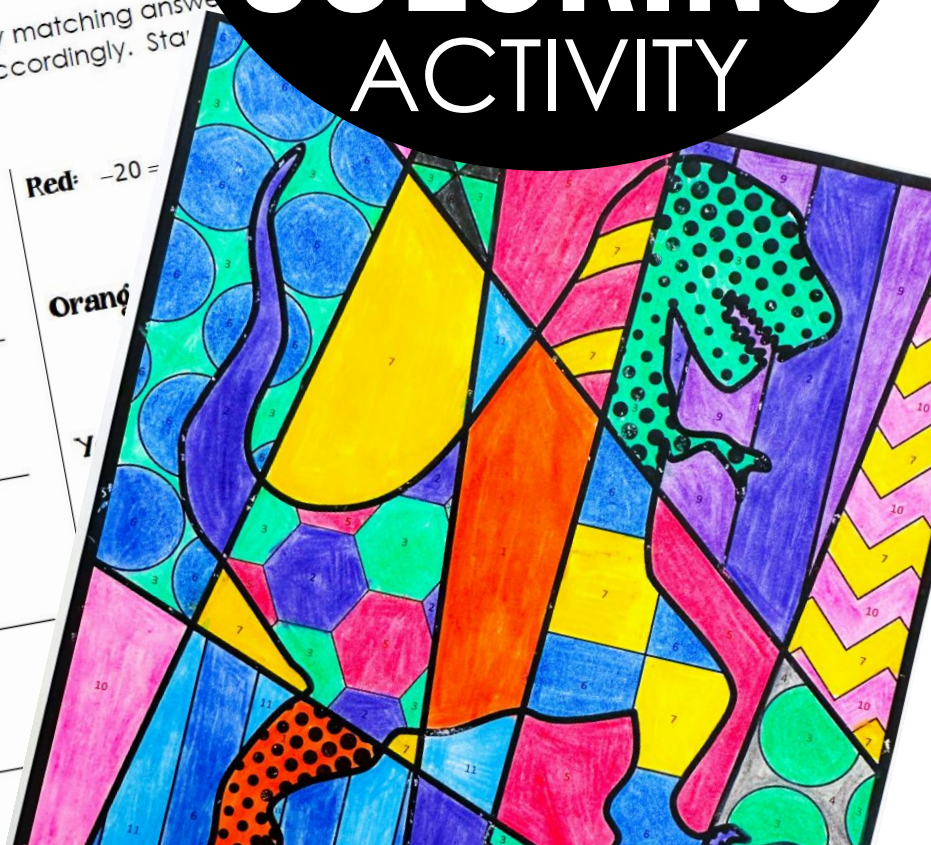
5.  $3 = 11 - (4 - 6x)^{\frac{1}{2}}$

Red:  $-20 =$

Orange

Yellow

# COLORING ACTIVITY



# RADICAL EQUATIONS

*with higher indexes*

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# Radical Equations

## COLORING ACTIVITY!

**Objective:** To practice solving radical equations, including those with higher indexes (square, cube, and fourth roots). Several equations are written with rational exponents rather than in radical form. Students must be able to solve both linear and quadratic equations. Extraneous solutions also included. This activity was created for an Algebra 2 level class.

### Directions:

- 1) Copy the equations sheet and dinosaur coloring picture for each student. I typically copy the coloring sheet on the back to save paper. I have my students show all work on a separate sheet of notebook paper.
- 2) If working in partners, Partner A does Column 1 and Partner B does column 2. They check with each other for matching answers in order to determine how to color the dinosaur.

For example, if #1 is  $x = 14$  and Orange is also  $x = 14$ , then all 1's on the picture are orange. If #2 is  $x = 8$  and Dark Purple is  $x = 8$ , then all 2's on the picture are dark purple. And so on.

This can also be done as an independent activity where each student does both columns (24 total problems).

- 3) After finding solving all the problems, students can color the picture. I have them staple their work to the paper and turn in for a classwork grade.

### Radical Equations

**Directions:** Solve each equation. Identify matching answers between Column 1 and Column 2, then color the dinosaur accordingly. Staple all work to this paper!

Column 1		Column 2	
1. $\sqrt{5x-17} + 2 = 7$	_____	Red: $-20 = 4\sqrt{11x-15}$	_____
2. $5\sqrt{2x+11} = 15$	_____	Orange: $\sqrt{6x-3} - 1 = 2$	_____
3. $2 = \frac{1 + \sqrt{29 - 4x}}{-3}$	_____	Yellow: $7(4x+17)^{\frac{1}{2}} - 6 = 29$	_____
4. $2(12p+28)^{\frac{1}{4}} - 15 = -7$	_____	Light Green: $45 = -5\sqrt{39-6x}$	_____
5. $3 = 11 - (4 - 6x)^{\frac{1}{2}}$	_____	Dark Green: $\frac{\sqrt{11x+4} + 17}{2} = 10$	_____
6. $(4x+12)^{\frac{3}{5}} + 3 = 1$	_____	Light Blue: $10 = 18 - 4(29 - 7x)^{\frac{1}{3}}$	_____
7. $\sqrt{4x-1} = \sqrt{9-x}$	_____	Dark Blue: $\sqrt{2x+39} = \sqrt{9-4x}$	_____
8. $\sqrt{39-2x} = \sqrt{2x-9}$	_____	Light Purple: $\sqrt[3]{63x-18} = 3\sqrt{x}$	_____
9. $\sqrt{13x+27} = 4\sqrt{x}$	_____	Dark Purple: $(7x-23)^{\frac{1}{2}} = (2x+17)^{\frac{1}{3}}$	_____
10. $x = \sqrt{10x-24}$	_____	Black: $\sqrt{7x+60} = x$	_____
11. $\sqrt{7x+43} = x+5$	_____	Gray: $x-3 = \sqrt{11x+47}$	_____
12. $x = \sqrt{2x+11} + 2$	_____	Pink: $\sqrt{24x+25} - x = 7$	_____

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