

PYRAMID SUM Puzzle

RADICAL EQUATIONS Pyramid Puzzle

K

$$\sqrt[3]{8x+3} = 3$$

4

A

$$(-8-2x)^{\frac{1}{3}} = (-3-x)^{\frac{1}{3}}$$

-7

N

$$-x = \sqrt{x+12}$$

-1

J

$$\frac{\sqrt{-6-14x}}{2} = 2$$

-3

L

$$(5x+7)^{\frac{1}{3}} = (-3+4x)^{\frac{1}{3}}$$

-8

E

$$\frac{3}{2}\sqrt{x+6} = 3$$

5

C

$$5\sqrt{-4x+7} = 27$$

-14

H

$$2\sqrt{5-x} = 4\sqrt{x}$$

5

RADICAL EQUATIONS

with higher indexes

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RADICAL EQUATIONS

Pyramid Sum Puzzle

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.**

Activity Directions:

- 1) Print enough templates and equations for each student (pages 3-4 of this document). I like to do the template on colored paper and the equations on white paper to make the final product pop!
- 2) Students solve each problem and place the solutions in the circles. I recommend having them show all work on a separate sheet of notebook paper.
- 3) Students cut the boxes out and arrange the top row according to the letters on the template. Then, they must arrange the remaining boxes so that each solution is the sum of the two solutions directly above it. Paste all pieces down.

An answer key is provided on page 5. This assignment is VERY easy to grade with the box letters and solutions!

RADICAL EQUATIONS Pyramid Puzzle

Directions: Solve each equation on a separate sheet of paper. Record your answers in the circles. Cut out the boxes and paste K, A, N, G, and D on the top row (in that order) on the template. Arrange the remaining boxes so that the solution to each problem is the sum of the two solutions directly above it.

A $(-8-2x)^{\frac{1}{2}} = (-3-x)^{\frac{1}{2}}$ ○	B $\sqrt{6-x} = x$ ○	C $5\sqrt{-4x+7} = 27$ ○	D $-3\sqrt[4]{-2x} = -6$ ○
F $(-4x+5)^{\frac{1}{2}} = (-37-6x)^{\frac{1}{2}}$ ○	G $2 + (2x-1)^2 = 5$ ○	H $2\sqrt{5-x} = 4\sqrt{x}$ ○	I $\sqrt[3]{5x+9} = \sqrt[3]{3x-7}$ ○
K $\sqrt[3]{8x+3} = 3$ ○	L $(5x+7)^{\frac{1}{3}} = (-3+4x)^{\frac{1}{3}}$ ○	M $-7\sqrt{-35x} = -42$ ○	N $-x = \sqrt{x+12}$ ○

RADICAL EQUATIONS Pyramid Puzzle Name: _____

K	A	N	G	D

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