

MATH SKETCH NOTES

PERFECT CUBES *and* CUBE ROOTS 11

Set 6

PERFECT CUBES

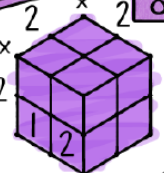
A perfect cube is the product of three equal integers. They create cubes with equal lengths, widths, and heights.

$$1 \times 1 \times 1 = 1^3$$



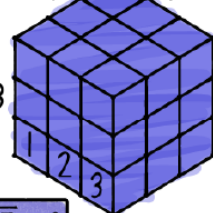
$$\sqrt[3]{1} = 1$$

$$2 \times 2 \times 2 = 2^3$$



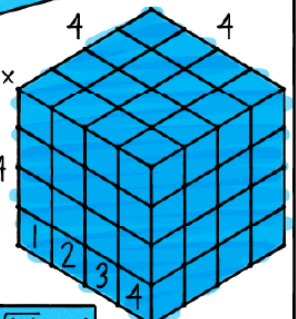
$$\sqrt[3]{8} = 2$$

$$3 \times 3 \times 3 = 3^3$$



$$\sqrt[3]{27} = 3$$

$$4 \times 4 \times 4 = 4^3$$



$$\sqrt[3]{64} = 4$$

CUBE ROOTS

A cube root is three equal factors of a number.

index



Use a radical symbol ($\sqrt{\quad}$) and a 3 index to denote.

radical symbol
Radicand:
The number under the radical symbol

WORD FORM

When you see the radical symbol + 3, read/write:

"The cube root of..."

When you see the radicand, read/write:

one, eight, twenty-seven...

CUBING A NUMBER

IF $X^3 = X \cdot X \cdot X = Y$

"Cubing" and "taking the cube root" are inverse, opposite operations.

THEN

$$\sqrt[3]{Y} = \sqrt[3]{X \cdot X \cdot X} = X$$

TAKING THE CUBE R

IF $5^3 = 5 \cdot 5 \cdot 5 = 125$

IF $6^3 = 6 \cdot 6 \cdot 6 = 216$

THEN

THEN

GRADE 6

STEP-BY-STEP POWERPOINT

PERFECT CUBES and CUBE ROOTS 11

PERFECT CUBES

A perfect cube is the product of three equal integers. They create cubes with equal lengths, widths, and heights.

$2 \times 2 \times 2 = 2^3$
 $3 \times 3 \times 3 = 3^3$
 $4 \times 4 \times 4 = 4^3$

$2^3 = 8$
 $3^3 = 27$
 $4^3 = 64$

$\sqrt[3]{64} = 4$

WORD FORM

When you see the radical symbol + 3, read/write:
"The cube root of..."

When you see the radicand, read/write:
"one, eight, twenty-seven..."

CUBING A NUMBER

IF $X^3 = X \cdot X \cdot X = Y$

THEN $\sqrt[3]{Y} = \sqrt[3]{X \cdot X \cdot X} = X$

TAKING THE CUBE ROOT OF A NUMBER

IF $5^3 = 5 \cdot 5 \cdot 5 = 125$	THEN $\sqrt[3]{125} = \sqrt[3]{5 \cdot 5 \cdot 5} = 5$
IF $6^3 = 6 \cdot 6 \cdot 6 = 216$	THEN $\sqrt[3]{216} = \sqrt[3]{6 \cdot 6 \cdot 6} = 6$

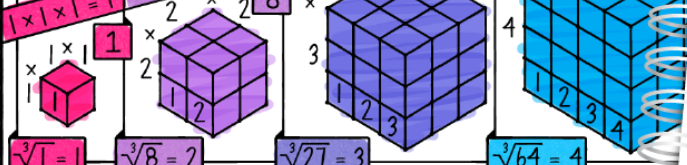
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PERFECT CUBES and CUBE ROOTS 11

PERFECT CUBES

A perfect cube is the product of three equal integers. They create cubes with equal lengths, widths, and heights.



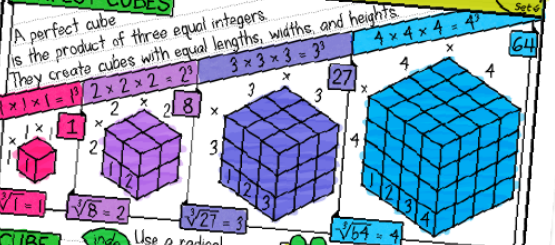
CUBE ROOTS

Use a radical symbol ($\sqrt{\quad}$) and a 3 index to denote a cube root radical symbol. A cube root is three.

When you see the radical symbol + 3, read/write "The cube root of..."

PERFECT CUBES and CUBE ROOTS 11

PERFECT CUBES



CUBE ROOTS

Use a radical symbol ($\sqrt{\quad}$) and a 3 index to denote a cube root radical symbol.

When you see the radical symbol + 3, read/write "The cube root of..."

2 SIZES: STANDARD US 8.5 × 11 & COMPOSITION NOTEBOOK



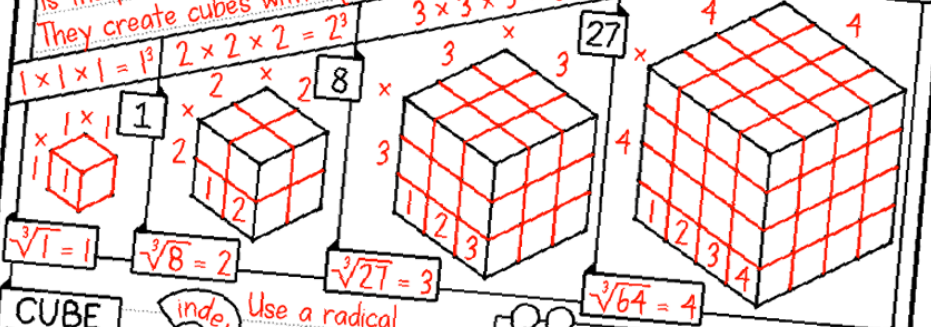
TAKING THE CUBE ROOT OF A NUMBER			
IF $5^3 = 5 \cdot 5 \cdot 5 = 125$	THEN	$\sqrt[3]{125} = \sqrt[3]{5 \cdot 5 \cdot 5} = 5$	
IF $6^3 = 6 \cdot 6 \cdot 6 = 216$	THEN	$\sqrt[3]{216} = \sqrt[3]{6 \cdot 6 \cdot 6} = 6$	

FINDING THE CUBE ROOT OF A NUMBER			
IF $5^3 = 5 \cdot 5 \cdot 5 = 125$	THEN	$\sqrt[3]{125} = \sqrt[3]{5 \cdot 5 \cdot 5} = 5$	
IF $6^3 = 6 \cdot 6 \cdot 6 = 216$	THEN	$\sqrt[3]{216} = \sqrt[3]{6 \cdot 6 \cdot 6} = 6$	

PERFECT CUBES and CUBE ROOTS 11

PERFECT CUBES

A perfect cube is the product of three equal integers. They create cubes with equal lengths, widths, and heights.



CUBE ROOTS

A cube root is three equal factors of a number.

DETAILED ANSWER KEY

IF $x^3 = x \cdot x \cdot x = y$

THEN $\sqrt[3]{y} = \sqrt[3]{x \cdot x \cdot x} = x$

"Cubing" and "taking the cube root" are inverse, opposite operations.

TAKING THE CUBE ROOT OF A NUMBER

IF $5^3 = 5 \cdot 5 \cdot 5 = 125$
 IF $6^3 = 6 \cdot 6 \cdot 6 = 216$

THEN $\sqrt[3]{125} = \sqrt[3]{5 \cdot 5 \cdot 5} = 5$
 THEN $\sqrt[3]{216} = \sqrt[3]{6 \cdot 6 \cdot 6} = 6$

MATH SKETCH NOTES

MATH SKETCH NOTES

These 6th-grade math sketch notes (AKA doodle pages) are a powerful learning and teaching tool. They cover essential math concepts and procedures for students in a visually appealing way. You can use this resource to supplement any math curriculum, and they are perfect for previewing/pre-teaching or reviewing/reinforcing.

These sketch pages are like mini anchor charts that your students actively create and can be referred to in the future.

WHAT'S INCLUDED:

- Blank student note page
(two sizes: 8.5 x 11 & composition notebook size for INBs)
- Detailed answer key
- Step-by-step PowerPoint

GUIDED NOTE-TAKING

Guiding your students through the note-taking process is so easy and requires almost zero preparation!

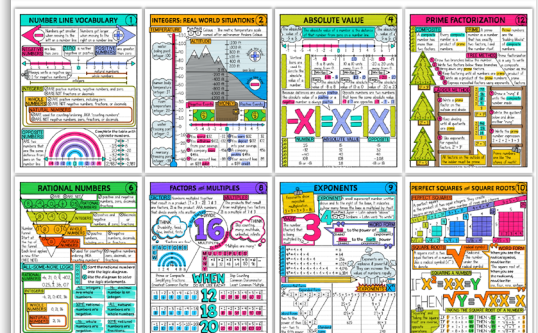
1. PowerPoint: Each sketch note page comes with a step-by-step PowerPoint that you can use to guide your students as they complete their notes.
2. Document Camera: Use a document camera to project a blank copy of the notes. Use the answer key provided to complete the note page in front of your students.

WHY SKETCH?

Sketch notes present your students with a meaningful and engaging activity they will love. Doodle note-taking activates verbal and visual modalities to capture concepts. The whole brain is absorbed in hearing, synthesizing, and retaining ideas. This high level of engagement helps students retain the content and leaves little room for distraction.

GET THE BUNDLE!!!

SIXTH GRADE MATH GUIDED SKETCH NOTES



GROWING BUNDLE