

Just In Time Quick Check
[Standard of Learning \(SOL\) A.3b](#)

Strand: Expressions and Operations

Standard of Learning (SOL) A.3b

The student will simplify cube roots of integers.

Grade Level Skills:

- Express the cube root of an integer in simplest form.

[Just in Time Quick Check](#)

[Just in Time Quick Check Teacher Notes](#)

Supporting Resources:

- VDOE Mathematics Instructional Plans (MIPS)
 - [A.3b - Simplify Cube Roots of Integers](#) (Word) / [PDF Version](#)
- VDOE Co-Teaching Mathematics Instruction Plans (MIPS)
 - [A.3b - Simplifying Cube Roots](#) (Word) / [PDF Version](#)
- VDOE Algebra Readiness Formative Assessments
 - [A.3](#) (Word) / [PDF](#)
- VDOE Algebra Readiness Remediation Plans
 - Hyperlinked Remediation Plans
- VDOE Word Wall Cards: Algebra I ([Word](#)) | ([PDF](#))
 - Cube Root
 - Simplify Numerical Expressions Containing Square or Cube Roots

Supporting and Prerequisite SOL: [A.3a](#), [8.3a](#), [8.3b](#), [7.1d](#)

SOL A.3b - Just in Time Quick Check

1) Simplify the expression. Show your work/thinking.

$$\sqrt[3]{-128}$$

2) Simplify the expression. Show your work/thinking.

$$\sqrt[3]{432}$$

3) Student A was asked to simplify the expression:

$$\sqrt[3]{1944}$$

Student A obtained the following result:

$$3\sqrt[3]{72}$$

Determine if this answer is correct or incorrect. Justify your thinking.

SOL A.3b - Just in Time Quick Check Teacher Notes

Common Errors/Misconceptions and their Possible Indications

- 1) Simplify the expression. Show your work/thinking.

$$\sqrt[3]{-128}$$

A misconception students may have is to think that the cube root of a negative number cannot be simplified. This may indicate they do not understand the difference between a cube and square root. The teacher may want to model cubing a negative number and connecting it to the inverse operation of cube root or provide visual representation of squares and cubes to help clarify.

- 2) Simplify the expression. Show your work/thinking.

$$\sqrt[3]{432}$$

A common error made by students is to take the square root instead of the cube root. This may indicate they are not paying attention to the index. The teacher may want to have the student highlight or circle the index number. The use of a prime factor tree where students circle groups of 3 common factors may help students organize their thinking.

- 3) Student A was asked to simplify the expression:

$$\sqrt[3]{1944}$$

Student A obtained the following result:

$$3\sqrt[3]{72}$$

Determine if this answer is correct or incorrect. Justify your thinking.

A common error students may have is not completely simplifying the radicand. This may indicate they are not identifying all the perfect cubes in the radicand. The teacher may encourage the student to use the prime factorization method to identify all perfect cubes.