Lesson 3.1: Introduction to Radicals

Explore Your Understanding Assignment

This assignment includes multiple choice questions. For multiple choice questions, select the best answer. Each is worth 1 mark.

Use the following list of radicals to answer question 1.

$$5\sqrt[4]{3}, \sqrt[4]{1\,280}, 8, 2\sqrt[4]{120}, 3\sqrt[4]{40}$$

(1) _____ 1. The correct order of radicals from smallest to largest is

A. $\sqrt[4]{1\,280}, 2\sqrt[4]{120}, 3\sqrt[4]{40}, 5\sqrt[4]{3}, 8$
B. $8, 5\sqrt[4]{3}, 3\sqrt[4]{40}, 2\sqrt[4]{120}, \sqrt[4]{1\,280}$
C. $\sqrt[4]{1\,280}, 5\sqrt[4]{3}, 2\sqrt[4]{120}, 3\sqrt[4]{40}, 8$
D. $\sqrt[4]{1\,280}, 2\sqrt[4]{120}, 8, 5\sqrt[4]{3}, 3\sqrt[4]{40}$

(1) _____ 2. The radical that best represents the **most** simplified version of $\sqrt{4\,032q^3}, q \geq 0$ is

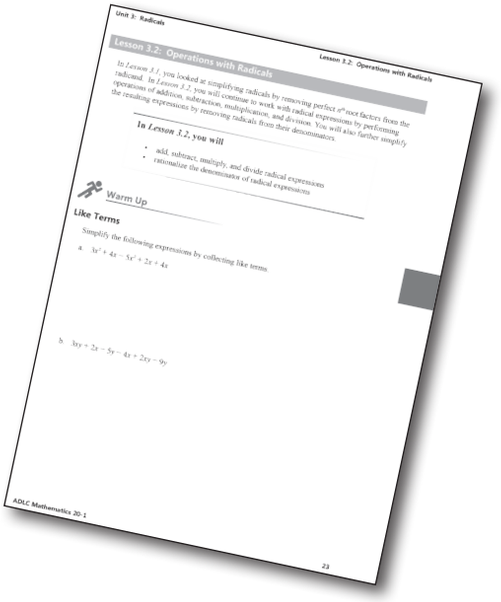
A. $4\sqrt{252q^3}$
B. $6\sqrt{112q^3}$
C. $12q\sqrt{28q}$
D. $24q\sqrt{7q}$

(1) _____ 3. The restriction on the variable for the radical expression $\sqrt{8c+4}$ is

A. $c \geq -\frac{1}{2}$
B. $c \geq \frac{1}{2}$
C. $c \geq 2$
D. There are no restrictions on c because the index is 2.

/3

You have completed *Lesson 3.1 Explore Your Understanding Assignment*. Please return to the *Module* and continue your exploration with *Lesson 3.2*.


Unit 3: Radicals

Lesson 3.2: Operations with Radicals

Lesson 3.2: Operations with Radicals

In *Lesson 3.1*, you looked at simplifying radicals by removing perfect n^{th} root factors from the radicand. In *Lesson 3.2*, you will continue to work with radical expressions by performing operations of addition, subtraction, multiplication and division. You will also further simplify the resulting expressions by removing radicals from their denominators.

In *Lesson 3.2*, you will

- add, subtract, multiply, and divide radical expressions
- rationalize the denominator of radical expressions

Warm Up

Like Terms

Simplify the following expressions by collecting like terms.

a. $3x^2 + 4x - 5x^2 + 2x + 4x$

b. $3xy + 2x - 5y - 4x + 2xy - 9y$

ADLC Mathematics 20-1

23