

Name: _____

Date: _____

Learning Goal 5.1

Express an entire radical as a simplified mixed radical and vice versa. Identify and order irrational numbers.

Multiple Strategies exist for evaluating radicals.

$$\sqrt[3]{8 \cdot 27} =$$

Direct (with a calculator)

Indirect (without a calculator)

$$\sqrt{0.0169} =$$

Direct (with a calculator)

Indirect (without a calculator)

Guess which one we're more interested in ... _____ !!!

Consider

$$\sqrt{24x^5} =$$

Direct (with a calculator)

Indirect (without a calculator)

This process is going from an _____ radical to a _____ radical.

Again! Write the radical in simplest form. What are the restrictions on the variables, if any?

1. $\sqrt{63}$

2. $\sqrt[3]{108}$

3. $\sqrt[4]{128}$

4. $\sqrt{30x^4}$

5. $\sqrt[3]{32y^5}$

6. $\sqrt[4]{48a^2b^7}$

Backwards! Write each mixed radical as an entire radical. What are the restrictions on the variables, if any?

1. $7\sqrt{3}$

2. $2\sqrt[3]{4}$

3. $2\sqrt[5]{3}$

4. $3x\sqrt[3]{5x}$

5. $8p\sqrt{2q}$

6. $3m^3\sqrt[3]{4m^3}$