

**General Algebra II**  
**Lesson #2 Unit 7**  
**Class Worksheet #2**  
**For Worksheet #2**

# **Square Root and Cube Root of Fractions and Decimals**

# **Square Root and Cube Root of Fractions and Decimals**

## **Square Root**

**Consider the following problem.**

# Square Root and Cube Root of Fractions and Decimals

## Square Root

Consider the following problem.

$$\sqrt{\frac{9}{16}} = \frac{3}{4}$$

# Square Root and Cube Root of Fractions and Decimals

## Square Root

Consider the following problem.

$$\sqrt{\frac{9}{16}} = \frac{3}{4}, \text{ since } \left(\frac{3}{4}\right)^2 = \frac{9}{16}$$

# Square Root and Cube Root of Fractions and Decimals

## Square Root

Consider the following problem.

$$\sqrt{\frac{9}{16}} = \frac{3}{4}, \text{ since } \left(\frac{3}{4}\right)^2 = \frac{9}{16}$$

**Note that**  $\sqrt{\frac{9}{16}} = \frac{\sqrt{9}}{\sqrt{16}}$

# Square Root and Cube Root of Fractions and Decimals

## Square Root

Consider the following problem.

$$\sqrt{\frac{9}{16}} = \frac{3}{4}, \text{ since } \left(\frac{3}{4}\right)^2 = \frac{9}{16}$$

Note that  $\sqrt{\frac{9}{16}} = \frac{\sqrt{9}}{\sqrt{16}}$

**This illustrates an important property concerning the square root of a fraction.**

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Consider the following problem.

$$\sqrt{\frac{9}{16}} = \frac{3}{4}, \text{ since } \left(\frac{3}{4}\right)^2 = \frac{9}{16}$$

Note that  $\sqrt{\frac{9}{16}} = \frac{\sqrt{9}}{\sqrt{16}}$

This illustrates an important property concerning the square root of a fraction.

**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$



# **Square Root and Cube Root of Fractions and Decimals**

## **Square Root**

### **The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

# Square Root and Cube Root of Fractions and Decimals

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## Square Root

## Cube Root

Consider the following problem.

### The Division Property of Square Roots

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

# Square Root and Cube Root of Fractions and Decimals

## Square Root

## Cube Root

Consider the following problem.

$$\sqrt[3]{\frac{27}{64}} = \frac{3}{4}$$

## The Division Property of Square Roots

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

# Square Root and Cube Root of Fractions and Decimals

## Square Root

## Cube Root

Consider the following problem.

$$\sqrt[3]{\frac{27}{64}} = \frac{3}{4}, \text{ since } \left(\frac{3}{4}\right)^3 = \frac{27}{64}$$

## The Division Property of Square Roots

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

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Consider the following problem.

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Note that  $\sqrt[3]{\frac{27}{64}} = \frac{\sqrt[3]{27}}{\sqrt[3]{64}}$

## The Division Property of Square Roots

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Consider the following problem.

$$\sqrt[3]{\frac{27}{64}} = \frac{3}{4}, \text{ since } \left(\frac{3}{4}\right)^3 = \frac{27}{64}$$

Note that  $\sqrt[3]{\frac{27}{64}} = \frac{\sqrt[3]{27}}{\sqrt[3]{64}}$

This illustrates an important property concerning the cube root of a fraction.

## The Division Property of Square Roots

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Note that 
$$\sqrt[3]{\frac{27}{64}} = \frac{\sqrt[3]{27}}{\sqrt[3]{64}}$$

This illustrates an important property concerning the cube root of a fraction.

### The Division Property of Cube Roots

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# Square Root and Cube Root of Fractions and Decimals

## Square Root

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### The Division Property of Square Roots

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Express each of the following in simplest form.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

1.  $\sqrt{\frac{1}{4}} =$

2.  $\sqrt[3]{\frac{1}{27}} =$

3.  $\sqrt{\frac{16}{49}} =$

4.  $\sqrt[3]{\frac{-8}{27}} =$

**The Division Property of Square Roots**

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$\frac{-8}{27}$  is a perfect cube.

The Division Property of Cube Roots

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in simplest form.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

$$1. \quad \sqrt{\frac{1}{4}} = \frac{\sqrt{1}}{\sqrt{4}} = \frac{1}{2}$$

$\frac{1}{4}$  is a perfect square.

$$3. \quad \sqrt{\frac{16}{49}} = \frac{\sqrt{16}}{\sqrt{49}} = \frac{4}{7}$$

$\frac{16}{49}$  is a perfect square.

The Division Property of Square Roots

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$2. \quad \sqrt[3]{\frac{1}{27}} = \frac{\sqrt[3]{1}}{\sqrt[3]{27}} = \frac{1}{3}$$

$\frac{1}{27}$  is a perfect cube.

$$4. \quad \sqrt[3]{\frac{-8}{27}} = \frac{\sqrt[3]{-8}}{\sqrt[3]{27}}$$

$\frac{-8}{27}$  is a perfect cube.

The Division Property of Cube Roots

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$



# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in **simplest form**.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

$$1. \quad \sqrt{\frac{1}{4}} = \frac{\sqrt{1}}{\sqrt{4}} = \frac{1}{2}$$

$\frac{1}{4}$  is a perfect square.

$$3. \quad \sqrt{\frac{16}{49}} = \frac{\sqrt{16}}{\sqrt{49}} = \frac{4}{7}$$

$\frac{16}{49}$  is a perfect square.

**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$2. \quad \sqrt[3]{\frac{1}{27}} = \frac{\sqrt[3]{1}}{\sqrt[3]{27}} = \frac{1}{3}$$

$\frac{1}{27}$  is a perfect cube.

$$4. \quad \sqrt[3]{\frac{-8}{27}} = \frac{\sqrt[3]{-8}}{\sqrt[3]{27}} = \frac{-2}{3}$$

$\frac{-8}{27}$  is a perfect cube.

**The Division Property of Cube Roots**

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

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$$1. \quad \sqrt{\frac{1}{4}} = \frac{\sqrt{1}}{\sqrt{4}} = \frac{1}{2}$$

$\frac{1}{4}$  is a perfect square.

$$3. \quad \sqrt{\frac{16}{49}} = \frac{\sqrt{16}}{\sqrt{49}} = \frac{4}{7}$$

$\frac{16}{49}$  is a perfect square.

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$2. \quad \sqrt[3]{\frac{1}{27}} = \frac{\sqrt[3]{1}}{\sqrt[3]{27}} = \frac{1}{3}$$

$\frac{1}{27}$  is a perfect cube.

$$4. \quad \sqrt[3]{\frac{-8}{27}} = \frac{\sqrt[3]{-8}}{\sqrt[3]{27}} = \frac{-2}{3}$$

$\frac{-8}{27}$  is a perfect cube.

**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

**The Division Property of Cube Roots**

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in **simplest form**.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

$$5. \sqrt{\frac{5}{9}} =$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$6. \sqrt[3]{\frac{7}{8}} =$$

**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

**The Division Property of Cube Roots**

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

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**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

**The Division Property of Cube Roots**

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# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in simplest form.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

$$5. \sqrt{\frac{5}{9}} =$$

$\frac{5}{9}$  is not a perfect square.

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$6. \sqrt[3]{\frac{7}{8}} =$$

**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

**The Division Property of Cube Roots**

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

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If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

$$5. \sqrt{\frac{5}{9}} =$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

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The Division Property of Square Roots

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

The Division Property of Cube Roots

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in simplest form.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

$$5. \sqrt{\frac{5}{9}} =$$

Step 1: Express the fraction with an equivalent fraction whose denominator is a perfect square.

The Division Property of Square Roots

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$6. \sqrt[3]{\frac{7}{8}} =$$

The Division Property of Cube Roots

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$


# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in simplest form.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

5.  $\sqrt{\frac{5}{9}} =$



The denominator is already a perfect square.

Step 1: Express the fraction with an equivalent fraction whose denominator is a perfect square.

The Division Property of Square Roots

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

6.  $\sqrt[3]{\frac{7}{8}} =$

The Division Property of Cube Roots

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$



# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in **simplest form**.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

$$5. \sqrt{\frac{5}{9}} =$$

**Step 1:** Express the fraction with an equivalent fraction whose denominator is a perfect square.

**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$6. \sqrt[3]{\frac{7}{8}} =$$

**The Division Property of Cube Roots**

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in simplest form.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

$$5. \sqrt{\frac{5}{9}} =$$

Step 1: Express the fraction with an equivalent fraction whose denominator is a perfect square.

Step 2: Apply the division property of square roots to express the problem as a quotient of square roots.

The Division Property of Square Roots

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$6. \sqrt[3]{\frac{7}{8}} =$$

The Division Property of Cube Roots

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

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If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

$$\begin{aligned} 5. \quad \sqrt{\frac{5}{9}} &= \\ &= \frac{\sqrt{5}}{\sqrt{9}} \end{aligned}$$

Step 1: Express the fraction with an equivalent fraction whose denominator is a perfect square.

Step 2: Apply the division property of square roots to express the problem as a quotient of square roots.

The Division Property of Square Roots

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

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$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

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**Step 1:** Express the fraction with an equivalent fraction whose denominator is a perfect square.

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$$6. \quad \sqrt[3]{\frac{7}{8}} =$$

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$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

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If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

$$\begin{aligned} 5. \quad \sqrt{\frac{5}{9}} &= \\ &= \frac{\sqrt{5}}{\sqrt{9}} \end{aligned}$$

**Step 1:** Express the fraction with an equivalent fraction whose denominator is a perfect square.

**Step 2:** Apply the division property of square roots to express the problem as a quotient of square roots.

**Step 3:** Evaluate the square root of the denominator.

**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$6. \quad \sqrt[3]{\frac{7}{8}} =$$

**The Division Property of Cube Roots**

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in simplest form.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

$$\begin{aligned} 5. \quad \sqrt{\frac{5}{9}} &= \\ &= \frac{\sqrt{5}}{\sqrt{9}} = \frac{\sqrt{5}}{3} \end{aligned}$$

**Step 1:** Express the fraction with an equivalent fraction whose denominator is a perfect square.

**Step 2:** Apply the division property of square roots to express the problem as a quotient of square roots.

**Step 3:** Evaluate the square root of the denominator.

**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$6. \quad \sqrt[3]{\frac{7}{8}} =$$

**The Division Property of Cube Roots**

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

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If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

$$\begin{aligned} 5. \quad \sqrt{\frac{5}{9}} &= \\ &= \frac{\sqrt{5}}{\sqrt{9}} = \frac{\sqrt{5}}{3} \end{aligned}$$

**Step 1:** Express the fraction with an equivalent fraction whose denominator is a perfect square.

**Step 2:** Apply the division property of square roots to express the problem as a quotient of square roots.

**Step 3:** Evaluate the square root of the denominator.

**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$6. \quad \sqrt[3]{\frac{7}{8}} =$$

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$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in simplest form.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

$$\begin{aligned} 5. \quad \sqrt{\frac{5}{9}} &= \\ &= \frac{\sqrt{5}}{\sqrt{9}} = \frac{\sqrt{5}}{3} \end{aligned}$$

Step 1: Express the fraction with an equivalent fraction whose denominator is a perfect square.

Step 2: Apply the division property of square roots to express the problem as a quotient of square roots.

Step 3: Evaluate the square root of the denominator.

Step 4: Express the numerator in standard radical form.

The Division Property of Square Roots

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$6. \quad \sqrt[3]{\frac{7}{8}} =$$

The Division Property of Cube Roots

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$



# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in simplest form.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

$$\begin{aligned} 5. \quad \sqrt{\frac{5}{9}} &= \\ &= \frac{\sqrt{5}}{\sqrt{9}} = \frac{\sqrt{5}}{3} \end{aligned}$$

The numerator is already in standard radical form.

Step 1: Express the fraction with an equivalent fraction whose denominator is a perfect square.

Step 2: Apply the division property of square roots to express the problem as a quotient of square roots.

Step 3: Evaluate the square root of the denominator.

Step 4: Express the numerator in standard radical form.

The Division Property of Square Roots

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$6. \quad \sqrt[3]{\frac{7}{8}} =$$

The Division Property of Cube Roots

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in **simplest form**.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

$$\begin{aligned} 5. \quad \sqrt{\frac{5}{9}} &= \\ &= \frac{\sqrt{5}}{\sqrt{9}} = \frac{\sqrt{5}}{3} \end{aligned}$$

**Step 1:** Express the fraction with an equivalent fraction whose denominator is a perfect square.

**Step 2:** Apply the division property of square roots to express the problem as a quotient of square roots.

**Step 3:** Evaluate the square root of the denominator.

**Step 4:** Express the numerator in standard radical form.

**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$6. \quad \sqrt[3]{\frac{7}{8}} =$$

**The Division Property of Cube Roots**

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in **simplest form**.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$\begin{aligned} 5. \quad \sqrt{\frac{5}{9}} &= \\ &= \frac{\sqrt{5}}{\sqrt{9}} = \frac{\sqrt{5}}{3} = \frac{1}{3}\sqrt{5} \end{aligned}$$

$$6. \quad \sqrt[3]{\frac{7}{8}} =$$

**Step 1:** Express the fraction with an equivalent fraction whose denominator is a perfect square.

**Step 2:** Apply the division property of square roots to express the problem as a quotient of square roots.

**Step 3:** Evaluate the square root of the denominator.

**Step 4:** Express the numerator in standard radical form.

**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

**The Division Property of Cube Roots**

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in **simplest form**.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

5.  $\sqrt{\frac{5}{9}} =$  Either answer is correct.

$$= \frac{\sqrt{5}}{\sqrt{9}} = \frac{\sqrt{5}}{3} = \frac{1}{3}\sqrt{5}$$

6.  $\sqrt[3]{\frac{7}{8}} =$

**Step 1:** Express the fraction with an equivalent fraction whose denominator is a perfect square.

**Step 2:** Apply the division property of square roots to express the problem as a quotient of square roots.

**Step 3:** Evaluate the square root of the denominator.

**Step 4:** Express the numerator in standard radical form.

**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

**The Division Property of Cube Roots**

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

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If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

$$\begin{aligned} 5. \quad \sqrt{\frac{5}{9}} &= \\ &= \frac{\sqrt{5}}{\sqrt{9}} = \frac{\sqrt{5}}{3} = \frac{1}{3}\sqrt{5} \end{aligned}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$6. \quad \sqrt[3]{\frac{7}{8}} =$$

**Step 1:** Express the fraction with an equivalent fraction whose denominator is a perfect square.

**Step 2:** Apply the division property of square roots to express the problem as a quotient of square roots.

**Step 3:** Evaluate the square root of the denominator.

**Step 4:** Express the numerator in standard radical form.

**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

**The Division Property of Cube Roots**

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

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If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

$$\begin{aligned} 5. \quad \sqrt{\frac{5}{9}} &= \\ &= \frac{\sqrt{5}}{\sqrt{9}} = \frac{\sqrt{5}}{3} = \frac{1}{3}\sqrt{5} \end{aligned}$$

**Step 1:** Express the fraction with an equivalent fraction whose denominator is a perfect square.

**Step 2:** Apply the division property of square roots to express the problem as a quotient of square roots.

**Step 3:** Evaluate the square root of the denominator.

**Step 4:** Express the numerator in standard radical form.

**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$6. \quad \sqrt[3]{\frac{7}{8}} =$$

**The Division Property of Cube Roots**

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

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**Step 1:** Express the fraction with an equivalent fraction whose denominator is a perfect square.

**Step 2:** Apply the division property of square roots to express the problem as a quotient of square roots.

**Step 3:** Evaluate the square root of the denominator.

**Step 4:** Express the numerator in standard radical form.

**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$6. \quad \sqrt[3]{\frac{7}{8}} =$$

$\frac{7}{8}$  is not a perfect cube.

**The Division Property of Cube Roots**

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in **simplest form**.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

$$\begin{aligned} 5. \quad \sqrt{\frac{5}{9}} &= \\ &= \frac{\sqrt{5}}{\sqrt{9}} = \frac{\sqrt{5}}{3} = \frac{1}{3}\sqrt{5} \end{aligned}$$

**Step 1:** Express the fraction with an equivalent fraction whose denominator is a perfect square.

**Step 2:** Apply the division property of square roots to express the problem as a quotient of square roots.

**Step 3:** Evaluate the square root of the denominator.

**Step 4:** Express the numerator in standard radical form.

**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$6. \quad \sqrt[3]{\frac{7}{8}} =$$

**The Division Property of Cube Roots**

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$



# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in **simplest form**.

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$$\begin{aligned} 5. \quad \sqrt{\frac{5}{9}} &= \\ &= \frac{\sqrt{5}}{\sqrt{9}} = \frac{\sqrt{5}}{3} = \frac{1}{3}\sqrt{5} \end{aligned}$$

**Step 1:** Express the fraction with an equivalent fraction whose denominator is a perfect square.

**Step 2:** Apply the division property of square roots to express the problem as a quotient of square roots.

**Step 3:** Evaluate the square root of the denominator.

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**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$6. \quad \sqrt[3]{\frac{7}{8}} =$$

**Step 1:** Express the fraction with an equivalent fraction whose denominator is a perfect cube.

**The Division Property of Cube Roots**

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in **simplest form**.

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**Step 1:** Express the fraction with an equivalent fraction whose denominator is a perfect square.

**Step 2:** Apply the division property of square roots to express the problem as a quotient of square roots.

**Step 3:** Evaluate the square root of the denominator.

**Step 4:** Express the numerator in standard radical form.

**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$6. \quad \sqrt[3]{\frac{7}{8}} =$$

The denominator is already a perfect cube.

**Step 1:** Express the fraction with an equivalent fraction whose denominator is a perfect cube.

**The Division Property of Cube Roots**

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in **simplest form**.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

$$\begin{aligned} 5. \quad \sqrt{\frac{5}{9}} &= \\ &= \frac{\sqrt{5}}{\sqrt{9}} = \frac{\sqrt{5}}{3} = \frac{1}{3}\sqrt{5} \end{aligned}$$

**Step 1:** Express the fraction with an equivalent fraction whose denominator is a perfect square.

**Step 2:** Apply the division property of square roots to express the problem as a quotient of square roots.

**Step 3:** Evaluate the square root of the denominator.

**Step 4:** Express the numerator in standard radical form.

**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$6. \quad \sqrt[3]{\frac{7}{8}} =$$

**Step 1:** Express the fraction with an equivalent fraction whose denominator is a perfect cube.

**The Division Property of Cube Roots**

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in **simplest form**.

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# Square Root and Cube Root of Fractions and Decimals

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The Division Property of Square Roots

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If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$\begin{aligned} 6. \quad \sqrt[3]{\frac{7}{8}} &= \frac{\sqrt[3]{7}}{\sqrt[3]{8}} = \frac{\sqrt[3]{7}}{2} \end{aligned}$$

The numerator is already in standard radical form.

Step 1: Express the fraction with an equivalent fraction whose denominator is a perfect cube.

Step 2: Apply the division property of cube roots to express the problem as a quotient of cube roots.

Step 3: Evaluate the cube root of the denominator.

Step 4: Express the numerator in standard radical form.

The Division Property of Cube Roots

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# Square Root and Cube Root of Fractions and Decimals

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# Square Root and Cube Root of Fractions and Decimals

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**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$\begin{aligned} 6. \quad \sqrt[3]{\frac{7}{8}} &= \\ &= \frac{\sqrt[3]{7}}{\sqrt[3]{8}} = \frac{\sqrt[3]{7}}{2} = \frac{1}{2}\sqrt[3]{7} \end{aligned}$$

Step 1: Express the fraction with an equivalent fraction whose denominator is a perfect cube.

Step 2: Apply the division property of cube roots to express the problem as a quotient of cube roots.

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**The Division Property of Cube Roots**

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in **simplest form**.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

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The Division Property of Square Roots

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$\begin{aligned} 6. \quad \sqrt[3]{\frac{7}{8}} &= \\ &= \frac{\sqrt[3]{7}}{\sqrt[3]{8}} = \frac{\sqrt[3]{7}}{2} = \frac{1}{2}\sqrt[3]{7} \end{aligned}$$

Either answer is correct.

Step 1: Express the fraction with an equivalent fraction whose denominator is a perfect cube.

Step 2: Apply the division property of cube roots to express the problem as a quotient of cube roots.

Step 3: Evaluate the cube root of the denominator.

Step 4: Express the numerator in standard radical form.

The Division Property of Cube Roots

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

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# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in **simplest form**.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

$$7. \sqrt{\frac{2}{3}} =$$

**Step 1:** Express the fraction with an equivalent fraction whose denominator is a perfect square.

**Step 2:** Apply the division property of square roots to express the problem as a quotient of square roots.

**Step 3:** Evaluate the square root of the denominator.

**Step 4:** Express the numerator in standard radical form.

**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

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

**Step 1:** Express the fraction with an equivalent fraction whose denominator is a perfect cube.

**Step 2:** Apply the division property of cube roots to express the problem as a quotient of cube roots.

**Step 3:** Evaluate the cube root of the denominator.

**Step 4:** Express the numerator in standard radical form.

**The Division Property of Cube Roots**

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$



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

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$$7. \sqrt{\frac{2}{3}} =$$

$\frac{2}{3}$  is not a perfect square.

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# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

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$$\begin{aligned} 7. \quad \sqrt{\frac{2}{3}} &= \\ &= \sqrt{\frac{6}{9}} \end{aligned}$$

**Step 1:** Express the fraction with an equivalent fraction whose denominator is a perfect square.

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**Step 3:** Evaluate the square root of the denominator.

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**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

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# Square Root and Cube Root of Fractions and Decimals

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$$7. \quad \sqrt{\frac{2}{3}} = \\ = \sqrt{\frac{6}{9}}$$

Step 1: Express the fraction with an equivalent fraction whose denominator is a perfect square.

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The Division Property of Square Roots

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Step 1: Express the fraction with an equivalent fraction whose denominator is a perfect cube.

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# Square Root and Cube Root of Fractions and Decimals

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**The Division Property of Square Roots**

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If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$8. \quad \sqrt[3]{\frac{2}{3}} =$$

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**The Division Property of Cube Roots**

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

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The numerator is already in standard radical form.

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**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$\begin{aligned} 8. \quad & \sqrt[3]{\frac{2}{3}} = \\ & = \sqrt[3]{\frac{18}{27}} = \frac{\sqrt[3]{18}}{\sqrt[3]{27}} \end{aligned}$$

**Step 1:** Express the fraction with an equivalent fraction whose denominator is a perfect cube.

**Step 2:** Apply the division property of cube roots to express the problem as a quotient of cube roots.

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$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in **simplest form**.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

$$\begin{aligned} 7. \quad \sqrt{\frac{2}{3}} &= \\ &= \sqrt{\frac{6}{9}} = \frac{\sqrt{6}}{\sqrt{9}} = \frac{\sqrt{6}}{3} = \frac{1}{3}\sqrt{6} \end{aligned}$$

Step 1: Express the fraction with an equivalent fraction whose denominator is a perfect square.

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The numerator is already in standard radical form.

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# Square Root and Cube Root of Fractions and Decimals

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# Square Root and Cube Root of Fractions and Decimals

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# Square Root and Cube Root of Fractions and Decimals

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# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in **simplest form**.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

$$9. \sqrt{\frac{9}{10}} =$$

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**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$10. \sqrt[3]{\frac{-8}{9}} =$$

**Step 1:** Express the fraction with an equivalent fraction whose denominator is a perfect cube.

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# Square Root and Cube Root of Fractions and Decimals

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# Square Root and Cube Root of Fractions and Decimals

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If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

$$\begin{aligned} 9. \quad \sqrt{\frac{9}{10}} &= \sqrt{\frac{90}{100}} = \frac{\sqrt{90}}{\sqrt{100}} = \\ &= \frac{\sqrt{90}}{10} \end{aligned}$$

Step 1: Express the fraction with an equivalent fraction whose denominator is a perfect square.

Step 2: Apply the division property of square roots to express the problem as a quotient of square roots.

Step 3: Evaluate the square root of the denominator.

Step 4: Express the numerator in standard radical form.

**The Division Property of Square Roots**

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$10. \quad \sqrt[3]{\frac{-8}{9}} =$$

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# Square Root and Cube Root of Fractions and Decimals

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$\frac{-8}{9}$  is not a perfect cube.

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$$\begin{aligned} 10. \quad \sqrt[3]{\frac{-8}{9}} &= \sqrt[3]{\frac{-24}{27}} = \frac{\sqrt[3]{-24}}{\sqrt[3]{27}} = \\ &= \frac{\sqrt[3]{-24}}{3} \end{aligned}$$

Step 1: Express the fraction with an equivalent fraction whose denominator is a perfect cube.

Step 2: Apply the division property of cube roots to express the problem as a quotient of cube roots.

Step 3: Evaluate the cube root of the denominator.

Step 4: Express the numerator in standard radical form.

The Division Property of Cube Roots

$$\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in **simplest form**.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

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# Square Root and Cube Root of Fractions and Decimals

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# Square Root and Cube Root of Fractions and Decimals

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# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in **simplest form**.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

11.  $\sqrt{0.36} =$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

12.  $\sqrt[3]{0.125} =$

# Square Root and Cube Root of Fractions and Decimals

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11.  $\sqrt{0.36} =$

0.36 is a perfect square.

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Express each of the following in simplest form.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

$$11. \sqrt{0.36} = 0.6$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$12. \sqrt[3]{0.125} =$$

# Square Root and Cube Root of Fractions and Decimals

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Express each of the following in simplest form.

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$$11. \sqrt{0.36} = 0.6$$

$$0.6^2 = 0.36$$

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$$12. \sqrt[3]{0.125} =$$

# Square Root and Cube Root of Fractions and Decimals

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$$0.6^2 = 0.36$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

12.  $\sqrt[3]{0.125} =$

0.125 is a perfect cube.

# Square Root and Cube Root of Fractions and Decimals

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$$0.6^2 = 0.36$$

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If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$12. \sqrt[3]{0.125} = 0.5$$

# Square Root and Cube Root of Fractions and Decimals

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$$0.6^2 = 0.36$$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$12. \sqrt[3]{0.125} = 0.5$$

$$0.5^3 = 0.125$$

# Square Root and Cube Root of Fractions and Decimals

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$$12. \sqrt[3]{0.125} = 0.5$$

$$0.5^3 = 0.125$$



# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in simplest form.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

13.  $\sqrt{1.5} =$

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

14.  $\sqrt[3]{-1.6} =$

# Square Root and Cube Root of Fractions and Decimals

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# Square Root and Cube Root of Fractions and Decimals

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Express each of the following in simplest form.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

13.  $\sqrt{1.5} =$

1.5 is not a perfect square.

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

14.  $\sqrt[3]{-1.6} =$

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$$14. \sqrt[3]{-1.6} =$$

Step 1: Express the decimal as a fraction in lowest terms.

# Square Root and Cube Root of Fractions and Decimals

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$$13. \sqrt{1.5} = \sqrt{\frac{3}{2}}$$

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$$14. \sqrt[3]{-1.6} =$$

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Step 1: Express the decimal as a fraction in lowest terms.

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$14. \sqrt[3]{-1.6} =$$

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Step 1: Express the decimal as a fraction in lowest terms.

Step 2: Express the fraction with an equivalent fraction whose denominator is a perfect square.

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$14. \sqrt[3]{-1.6} =$$



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$$\begin{aligned} 13. \quad \sqrt{1.5} &= \sqrt{\frac{3}{2}} = \\ &= \sqrt{\frac{6}{4}} \end{aligned}$$

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Step 1: Express the decimal as a fraction in lowest terms.

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Step 1: Express the decimal as a fraction in lowest terms.

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Step 3: Apply the division property of square roots to express the problem as a quotient of square roots.

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in simplest form.

If the radicand is a perfect square, give the exact value. If not, express the square root using standard radical form.

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$\begin{aligned} 13. \quad \sqrt{1.5} &= \sqrt{\frac{3}{2}} = \\ &= \sqrt{\frac{6}{4}} = \frac{\sqrt{6}}{\sqrt{4}} \end{aligned}$$

$$14. \quad \sqrt[3]{-1.6} =$$

Step 1: Express the decimal as a fraction in lowest terms.

Step 2: Express the fraction with an equivalent fraction whose denominator is a perfect square.

Step 3: Apply the division property of square roots to express the problem as a quotient of square roots.

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**Step 1:** Express the decimal as a fraction in lowest terms.

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$$14. \quad \sqrt[3]{-1.6} =$$

**Step 1:** Express the decimal as a fraction in lowest terms.

**Step 2:** Express the fraction with an equivalent fraction whose denominator is a perfect square.

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**Step 4:** Evaluate the square root of the denominator.

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**Step 1:** Express the decimal as a fraction in lowest terms.

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# Square Root and Cube Root of Fractions and Decimals

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Step 1: Express the decimal as a fraction in lowest terms.

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# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

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Step 1: Express the decimal as a fraction in lowest terms.

Step 2: Express the fraction with an equivalent fraction whose denominator is a perfect square.

Step 3: Apply the division property of square roots to express the problem as a quotient of square roots.

Step 4: Evaluate the square root of the denominator.

Step 5: Express the numerator in standard radical form.

# Square Root and Cube Root of Fractions and Decimals

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$$13. \sqrt{1.5} = \sqrt{\frac{3}{2}} =$$

$$= \sqrt{\frac{6}{4}} = \frac{\sqrt{6}}{\sqrt{4}} = \frac{\sqrt{6}}{2}$$

The numerator is already in standard radical form.

$$14. \sqrt[3]{-1.6} =$$

Step 1: Express the decimal as a fraction in lowest terms.

Step 2: Express the fraction with an equivalent fraction whose denominator is a perfect square.

Step 3: Apply the division property of square roots to express the problem as a quotient of square roots.

Step 4: Evaluate the square root of the denominator.

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# Square Root and Cube Root of Fractions and Decimals

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# Square Root and Cube Root of Fractions and Decimals

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$$14. \quad \sqrt[3]{-1.6} =$$

Step 1: Express the decimal as a fraction in lowest terms.

Step 2: Express the fraction with an equivalent fraction whose denominator is a perfect square.

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Step 5: Express the numerator in standard radical form.

# Square Root and Cube Root of Fractions and Decimals

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**Step 1:** Express the decimal as a fraction in lowest terms.

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# Square Root and Cube Root of Fractions and Decimals

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If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$14. \quad \sqrt[3]{-1.6} =$$

# Square Root and Cube Root of Fractions and Decimals

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Step 4: Evaluate the square root of the denominator.

Step 5: Express the numerator in standard radical form.

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$14. \quad \sqrt[3]{-1.6} =$$

-1.6 is not a perfect cube.



# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

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If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$14. \quad \sqrt[3]{-1.6} =$$

Step 1: Express the decimal as a fraction in lowest terms.

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

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Step 5: Express the numerator in standard radical form.

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$14. \quad \sqrt[3]{-1.6} = \sqrt[3]{-\frac{8}{5}}$$

Step 1: Express the decimal as a fraction in lowest terms.

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

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Step 5: Express the numerator in standard radical form.

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$14. \quad \sqrt[3]{-1.6} = \sqrt[3]{-\frac{8}{5}} = \sqrt[3]{-\frac{200}{125}}$$

Step 1: Express the decimal as a fraction in lowest terms.

Step 2: Express the fraction with an equivalent fraction whose denominator is a perfect cube.

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

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$$14. \quad \sqrt[3]{-1.6} = \sqrt[3]{-\frac{8}{5}} = \sqrt[3]{-\frac{200}{125}}$$

Step 1: Express the decimal as a fraction in lowest terms.

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# Square Root and Cube Root of Fractions and Decimals

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If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$14. \quad \sqrt[3]{-1.6} = \sqrt[3]{-\frac{8}{5}} = \sqrt[3]{-\frac{200}{125}}$$

Step 1: Express the decimal as a fraction in lowest terms.

Step 2: Express the fraction with an equivalent fraction whose denominator is a perfect cube.

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# Square Root and Cube Root of Fractions and Decimals

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$$14. \quad \sqrt[3]{-1.6} = \sqrt[3]{\frac{-8}{5}} = \sqrt[3]{\frac{-200}{125}} = \frac{\sqrt[3]{-200}}{\sqrt[3]{125}}$$

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$$14. \quad \sqrt[3]{-1.6} = \sqrt[3]{\frac{-8}{5}} = \sqrt[3]{\frac{-200}{125}} = \frac{\sqrt[3]{-200}}{\sqrt[3]{125}}$$

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Step 1: Express the decimal as a fraction in lowest terms.

Step 2: Express the fraction with an equivalent fraction whose denominator is a perfect cube.

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# Square Root and Cube Root of Fractions and Decimals

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Step 1: Express the decimal as a fraction in lowest terms.

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# Square Root and Cube Root of Fractions and Decimals

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Step 2: Express the fraction with an equivalent fraction whose denominator is a perfect square.

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Step 5: Express the numerator in standard radical form.

If the radicand is a perfect cube, give the exact value. If not, express the cube root using standard radical form.

$$\begin{aligned} 14. \quad \sqrt[3]{-1.6} &= \sqrt[3]{-\frac{8}{5}} = \sqrt[3]{\frac{-200}{125}} = \frac{\sqrt[3]{-200}}{\sqrt[3]{125}} = \\ &= \frac{\sqrt[3]{-200}}{5} \end{aligned}$$

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# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Express each of the following in **simplest form**.

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# Square Root and Cube Root of Fractions and Decimals

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# Square Root and Cube Root of Fractions and Decimals

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# Square Root and Cube Root of Fractions and Decimals

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# Square Root and Cube Root of Fractions and Decimals

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# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Perform the indicated operations. Express your answers in simplest form.

15.  $\sqrt{\frac{1}{5}} + \sqrt{\frac{5}{9}} =$

16.  $\sqrt[3]{\frac{3}{8}} + \sqrt[3]{\frac{1}{9}} =$

# Square Root and Cube Root of Fractions and Decimals

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=

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$$= \frac{\sqrt{5}}{5} + \frac{\sqrt{5}}{3} = \frac{3\sqrt{5}}{15}$$

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=

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**Step 1:** Express each square root in standard radical form.

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# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Perform the indicated operations. Express your answers in simplest form.

$$15. \sqrt{\frac{1}{5}} + \sqrt{\frac{5}{9}} =$$

$$= \sqrt{\frac{5}{25}} + \sqrt{\frac{5}{9}} = \frac{\sqrt{5}}{\sqrt{25}} + \frac{\sqrt{5}}{\sqrt{9}} =$$

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$$= \frac{\quad}{15}$$

$$16. \sqrt[3]{\frac{3}{8}} + \sqrt[3]{\frac{1}{9}} =$$

**Step 1:** Express each square root in standard radical form.

**Step 2:** Use a common denominator and combine like terms.

# Square Root and Cube Root of Fractions and Decimals

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**Step 1:** Express each cube root in standard radical form.

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# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Perform the indicated operations. Express your answers in simplest form.

$$15. \sqrt{\frac{1}{5}} + \sqrt{\frac{5}{9}} = \frac{8\sqrt{5}}{15}$$

$$= \sqrt{\frac{5}{25}} + \sqrt{\frac{5}{9}} = \frac{\sqrt{5}}{\sqrt{25}} + \frac{\sqrt{5}}{\sqrt{9}} =$$

$$= \frac{\sqrt{5}}{5} + \frac{\sqrt{5}}{3} = \frac{3\sqrt{5}}{15} + \frac{5\sqrt{5}}{15} =$$

$$= \frac{8\sqrt{5}}{15}$$

**Step 1:** Express each square root in standard radical form.

**Step 2:** Use a common denominator and combine like terms.

$$16. \sqrt[3]{\frac{3}{8}} + \sqrt[3]{\frac{1}{9}} =$$

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$$= \frac{\sqrt[3]{3}}{2} + \frac{\sqrt[3]{3}}{3} = \frac{3\sqrt[3]{3}}{6}$$

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# Square Root and Cube Root of Fractions and Decimals

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## General Algebra II Class Worksheet #2 Unit 7

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# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Perform the indicated operations. Express your answers in simplest form.

17.  $\sqrt{\frac{7}{8}} - \sqrt{\frac{2}{7}} =$

18.  $\sqrt[3]{\frac{5}{9}} - \sqrt[3]{\frac{3}{25}} =$

**Step 1:** Express each square root in standard radical form.

**Step 2:** Use a common denominator and combine like terms.

**Step 1:** Express each cube root in standard radical form.

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# Square Root and Cube Root of Fractions and Decimals

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17.  $\sqrt{\frac{7}{8}} - \sqrt{\frac{2}{7}} =$

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**Step 1:** Express each square root in standard radical form.

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# Square Root and Cube Root of Fractions and Decimals

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# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

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=

**Step 1: Express each square root in standard radical form.**

**Step 2: Use a common denominator and combine like terms.**

18.  $\sqrt[3]{\frac{5}{9}} - \sqrt[3]{\frac{3}{25}} =$

**Step 1: Express each cube root in standard radical form.**

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# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Perform the indicated operations. Express your answers in simplest form.

$$17. \sqrt{\frac{7}{8}} - \sqrt{\frac{2}{7}} =$$

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$$18. \sqrt[3]{\frac{5}{9}} - \sqrt[3]{\frac{3}{25}} =$$

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# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Perform the indicated operations. Express your answers in simplest form.

$$17. \sqrt{\frac{7}{8}} - \sqrt{\frac{2}{7}} =$$

$$= \sqrt{\frac{14}{16}} -$$

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**Step 1: Express each square root in standard radical form.**

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**Step 1: Express each cube root in standard radical form.**

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$$18. \sqrt[3]{\frac{5}{9}} - \sqrt[3]{\frac{3}{25}} =$$

**Step 1: Express each cube root in standard radical form.**

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# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Perform the indicated operations. Express your answers in simplest form.

$$17. \sqrt{\frac{7}{8}} - \sqrt{\frac{2}{7}} =$$

$$= \sqrt{\frac{14}{16}} - \sqrt{\frac{14}{49}}$$

**Step 1: Express each square root in standard radical form.**

**Step 2: Use a common denominator and combine like terms.**

$$18. \sqrt[3]{\frac{5}{9}} - \sqrt[3]{\frac{3}{25}} =$$

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# Square Root and Cube Root of Fractions and Decimals

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$$18. \sqrt[3]{\frac{5}{9}} - \sqrt[3]{\frac{3}{25}} =$$

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$$= \frac{\sqrt{14}}{4}$$

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$$= \sqrt{\frac{14}{16}} - \sqrt{\frac{14}{49}} = \frac{\sqrt{14}}{\sqrt{16}} - \frac{\sqrt{14}}{\sqrt{49}} =$$

$$= \frac{\sqrt{14}}{4} - \frac{\sqrt{14}}{7}$$

**Step 1: Express each square root in standard radical form.**

**Step 2: Use a common denominator and combine like terms.**

$$18. \sqrt[3]{\frac{5}{9}} - \sqrt[3]{\frac{3}{25}} =$$

**Step 1: Express each cube root in standard radical form.**

**Step 2: Use a common denominator and combine like terms.**

# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Perform the indicated operations. Express your answers in simplest form.

$$17. \sqrt{\frac{7}{8}} - \sqrt{\frac{2}{7}} =$$

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**Step 1:** Express each square root in standard radical form.

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$$18. \sqrt[3]{\frac{5}{9}} - \sqrt[3]{\frac{3}{25}} =$$

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# Square Root and Cube Root of Fractions and Decimals

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# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

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$$18. \sqrt[3]{\frac{5}{9}} - \sqrt[3]{\frac{3}{25}} =$$

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# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

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$$= \frac{\sqrt{14}}{4} - \frac{\sqrt{14}}{7} = \frac{7\sqrt{14}}{28}$$

**Step 1:** Express each square root in standard radical form.

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$$18. \sqrt[3]{\frac{5}{9}} - \sqrt[3]{\frac{3}{25}} =$$

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# Square Root and Cube Root of Fractions and Decimals

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**Step 1:** Express each square root in standard radical form.

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# Square Root and Cube Root of Fractions and Decimals

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# Square Root and Cube Root of Fractions and Decimals

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**Step 1:** Express each square root in standard radical form.

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$$18. \sqrt[3]{\frac{5}{9}} - \sqrt[3]{\frac{3}{25}} =$$

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# Square Root and Cube Root of Fractions and Decimals

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**Step 1:** Express each square root in standard radical form.

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# Square Root and Cube Root of Fractions and Decimals

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=

**Step 1:** Express each square root in standard radical form.

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$$18. \sqrt[3]{\frac{5}{9}} - \sqrt[3]{\frac{3}{25}} =$$

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# Square Root and Cube Root of Fractions and Decimals

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$$= \frac{\sqrt{14}}{28}$$

**Step 1:** Express each square root in standard radical form.

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# Square Root and Cube Root of Fractions and Decimals

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$$= \frac{\quad}{28}$$

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# Square Root and Cube Root of Fractions and Decimals

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$$= \frac{3\sqrt{14}}{28}$$

**Step 1:** Express each square root in standard radical form.

**Step 2:** Use a common denominator and combine like terms.

$$18. \sqrt[3]{\frac{5}{9}} - \sqrt[3]{\frac{3}{25}} =$$

**Step 1:** Express each cube root in standard radical form.

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# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

Perform the indicated operations. Express your answers in simplest form.

$$\begin{aligned} 17. \quad \sqrt{\frac{7}{8}} - \sqrt{\frac{2}{7}} &= \frac{3\sqrt{14}}{28} \\ &= \sqrt{\frac{14}{16}} - \sqrt{\frac{14}{49}} = \frac{\sqrt{14}}{\sqrt{16}} - \frac{\sqrt{14}}{\sqrt{49}} = \\ &= \frac{\sqrt{14}}{4} - \frac{\sqrt{14}}{7} = \frac{7\sqrt{14}}{28} - \frac{4\sqrt{14}}{28} = \\ &= \frac{3\sqrt{14}}{28} \end{aligned}$$

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$$18. \quad \sqrt[3]{\frac{5}{9}} - \sqrt[3]{\frac{3}{25}} =$$

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# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

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# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

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**Step 1:** Express each square root in standard radical form.

**Step 2:** Use a common denominator and combine like terms.

$$\begin{aligned} 18. \quad \sqrt[3]{\frac{5}{9}} - \sqrt[3]{\frac{3}{25}} &= \\ &= \sqrt[3]{\frac{15}{27}} - \sqrt[3]{\frac{15}{125}} \end{aligned}$$

**Step 1:** Express each cube root in standard radical form.

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# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

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**Step 1:** Express each square root in standard radical form.

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# Square Root and Cube Root of Fractions and Decimals

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**Step 1:** Express each cube root in standard radical form.

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# Square Root and Cube Root of Fractions and Decimals

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$$\begin{aligned} 18. \quad \sqrt[3]{\frac{5}{9}} - \sqrt[3]{\frac{3}{25}} &= \\ &= \sqrt[3]{\frac{15}{27}} - \sqrt[3]{\frac{15}{125}} = \frac{\sqrt[3]{15}}{\sqrt[3]{27}} - \frac{\sqrt[3]{15}}{\sqrt[3]{125}} \end{aligned}$$

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# Square Root and Cube Root of Fractions and Decimals

## General Algebra II Class Worksheet #2 Unit 7

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**Good luck on your homework !!**

4

7

28

28

$$= \frac{3\sqrt{14}}{28}$$

3

5

15

15

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