

Name \_\_\_\_\_

### Section 7.4

### Algebra II: Quotients of Square Roots

#### Essential Questions:

How do I solve an equation with a fraction square root?

$$\sqrt{\frac{144}{72 \cdot 2}}$$

Solve the following. You need to get two answers.

$$1) \sqrt{\frac{144}{9}} = \frac{\sqrt{144}}{\sqrt{9}} = \frac{12}{3} = \boxed{4}$$

$$\sqrt{\frac{36 \cdot 2 \cdot 2}{6 \cdot 2 \cdot 2}}$$

$$2) \sqrt{\frac{6}{16}} = \frac{\sqrt{6}}{\sqrt{16}} = \frac{\sqrt{6}}{4}$$

$$6 \cdot 2 = 12$$

$$\frac{\sqrt{6}}{\sqrt{2 \cdot 3}} = \sqrt{6}$$

$$3) \sqrt{\frac{y^2}{4}} = \frac{\sqrt{y^2}}{\sqrt{4}} = \frac{\sqrt{y \cdot y}}{\sqrt{2 \cdot 2}} = \frac{y}{2}$$

$$4) \sqrt{\frac{3x^2}{16}} = \frac{\sqrt{3x^2}}{\sqrt{16}} = \frac{\sqrt{3 \cdot x \cdot x}}{\sqrt{4 \cdot 4}} = \frac{x\sqrt{3}}{4}$$

13) 
$$\sqrt{\frac{20}{25}} = \frac{\sqrt{20}}{\sqrt{25}} = \frac{\sqrt{4 \cdot 5}}{5} = \frac{\sqrt{2 \cdot 2 \cdot 5}}{5} = \frac{2\sqrt{5}}{5}$$

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Find two solutions of the equation.

1)  $\sqrt{\frac{4}{25}}$

2)  $\sqrt{\frac{16}{64}}$

3)  $\sqrt{\frac{1}{16}}$

4)  $\sqrt{\frac{16}{49}}$

5)  $\frac{\sqrt{9}}{\sqrt{196}}$

6)  $\sqrt{\frac{169}{16}}$

7)  $\sqrt{\frac{y^2}{36}}$

8)  $\sqrt{\frac{y^2}{81}}$

9)  $\sqrt{\frac{3x^2}{4}}$

10)  $\sqrt{\frac{4x^2}{9}}$

11)  $\sqrt{\frac{3}{4}}$

12)  $\sqrt{\frac{10}{16}}$

13)  $\sqrt{\frac{20}{25}}$

14)  $\sqrt{\frac{12}{9}}$

15)  $\sqrt{\frac{20}{25}}$

16)  $\sqrt{\frac{50}{4}}$