

Algebra II Worksheet #2 Unit 5 Selected Solutions

Express each of the following in simplest form.

$$1. \quad \sqrt{\frac{4}{9}} = \frac{\sqrt{4}}{\sqrt{9}} = \boxed{\frac{2}{3}}$$

$$2. \quad \sqrt[3]{\frac{1}{8}} = \frac{\sqrt[3]{1}}{\sqrt[3]{8}} = \boxed{\frac{1}{2}}$$

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

$$9. \quad \sqrt{\frac{5}{8}} =$$

$$\frac{\sqrt[3]{3} \cdot \sqrt[3]{2}}{\sqrt[3]{4} \cdot \sqrt[3]{2}} = \frac{\sqrt[3]{6}}{\sqrt[3]{8}} = \boxed{\frac{\sqrt[3]{6}}{2}}$$

$$\frac{\sqrt{5} \cdot \sqrt{2}}{\sqrt{8} \cdot \sqrt{2}} = \frac{\sqrt{10}}{\sqrt{16}} = \boxed{\frac{\sqrt{10}}{4}}$$

$$16. \quad \sqrt[3]{\frac{-3}{16}} =$$

$$24. \quad \sqrt[3]{-2.5} =$$

$$\frac{\sqrt[3]{-3} \cdot \sqrt[3]{4}}{\sqrt[3]{16} \cdot \sqrt[3]{4}} = \frac{\sqrt[3]{-1} \cdot \sqrt[3]{12}}{\sqrt[3]{64}} = \boxed{\frac{-\sqrt[3]{12}}{4}}$$

$$\sqrt[3]{\frac{-5}{2}} = \frac{\sqrt[3]{-5} \cdot \sqrt[3]{4}}{\sqrt[3]{2} \cdot \sqrt[3]{4}} = \frac{\sqrt[3]{-1} \cdot \sqrt[3]{20}}{\sqrt[3]{8}} = \boxed{\frac{-\sqrt[3]{20}}{2}}$$

$$29. \quad \sqrt{3.2} =$$

$$\sqrt{\frac{16}{5}} = \frac{\sqrt{16} \cdot \sqrt{5}}{\sqrt{5} \cdot \sqrt{5}} = \boxed{\frac{4\sqrt{5}}{5}}$$

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

$$31. \quad \sqrt{\frac{3}{4}} + \sqrt{\frac{1}{3}} =$$

$$34. \quad \sqrt[3]{\frac{4}{5}} - \sqrt[3]{\frac{1}{10}} =$$

$$\frac{\sqrt{3}}{\sqrt{4}} + \frac{\sqrt{1} \cdot \sqrt{3}}{\sqrt{3} \cdot \sqrt{3}} =$$

$$\frac{\sqrt[3]{4} \cdot \sqrt[3]{25}}{\sqrt[3]{5} \cdot \sqrt[3]{25}} - \frac{\sqrt[3]{1} \cdot \sqrt[3]{100}}{\sqrt[3]{10} \cdot \sqrt[3]{100}} =$$

$$\frac{\sqrt{3}}{2} + \frac{\sqrt{3}}{3} =$$

$$\frac{\sqrt[3]{100}}{5} - \frac{\sqrt[3]{100}}{10} =$$

$$\frac{3\sqrt{3}}{6} + \frac{2\sqrt{3}}{6} = \boxed{\frac{5\sqrt{3}}{6}}$$

$$\frac{2\sqrt[3]{100}}{10} - \frac{\sqrt[3]{100}}{10} = \boxed{\frac{\sqrt[3]{100}}{10}}$$