

## General Algebra II Worksheet #4 Unit 7 Selected Solutions

Express each of the following in simplest form.

$$1. \sqrt{40} = \sqrt{4} \sqrt{10} = 2\sqrt{10}$$

$$4. \sqrt[3]{-250} = \sqrt[3]{-125} \sqrt[3]{2} = -5\sqrt[3]{2}$$

$$7. \sqrt{\frac{-5}{8}} = \sqrt{\frac{5}{8}} \cdot \sqrt{-1} =$$

$$= \sqrt{\frac{10}{16}} i = \frac{\sqrt{10}}{\sqrt{16}} i = \boxed{\frac{\sqrt{10}}{4} i}$$

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

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

$$10. \sqrt[3]{4.5} =$$

$$\sqrt[3]{\frac{9}{2}} = \sqrt[3]{\frac{36}{8}} =$$

$$= \frac{\sqrt[3]{36}}{\sqrt[3]{8}} = \boxed{\frac{\sqrt[3]{36}}{2}}$$

$$11. \sqrt{-5.4} = \sqrt{5.4} \cdot \sqrt{-1} =$$

$$\sqrt{\frac{27}{5}} i = \sqrt{\frac{135}{25}} i = \frac{\sqrt{135}}{\sqrt{25}} i =$$

$$= \frac{\sqrt{9} \cdot \sqrt{15}}{5} i = \boxed{\frac{3\sqrt{15}}{5} i}$$

Perform the indicated operations. Express each of the following in simplest form.

$$13. \sqrt{18} + \sqrt{50} = 8\sqrt{2}$$

$$\sqrt{9} \sqrt{2} + \sqrt{25} \sqrt{2} =$$

$$3\sqrt{2} + 5\sqrt{2} = 8\sqrt{2}$$

$$16. \sqrt[3]{\frac{2}{25}} + \sqrt[3]{\frac{5}{32}} =$$

$$= \sqrt[3]{\frac{10}{125}} + \sqrt[3]{\frac{10}{64}} = \frac{\sqrt[3]{10}}{\sqrt[3]{125}} + \frac{\sqrt[3]{10}}{\sqrt[3]{64}} =$$

$$= \frac{\sqrt[3]{10}}{5} + \frac{\sqrt[3]{10}}{4} = \frac{4\sqrt[3]{10}}{20} + \frac{5\sqrt[3]{10}}{20} = \boxed{\frac{9\sqrt[3]{10}}{20}}$$