

Algebra II Worksheet #1 Unit 5 Selected Solutions

Express each of the following radicals in simplest form.

$$1. \quad \sqrt{121} = 11 \quad \text{since } 11^2 = 121$$

$$4. \quad \sqrt[3]{-729} = -9 \quad \text{since } (-9)^3 = -729$$

$$9. \quad \sqrt{125} = \sqrt{25} \sqrt{5} = 5\sqrt{5}$$

$$12. \quad \sqrt[3]{80} = \sqrt[3]{8} \sqrt[3]{10} = 2\sqrt[3]{10}$$

$$15. \quad \sqrt{32} = \sqrt{16} \sqrt{2} = 4\sqrt{2}$$

$$16. \quad \sqrt[3]{-81} = \sqrt[3]{-27} \sqrt[3]{3} = -3\sqrt[3]{3}$$

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

$$21. \quad \sqrt{48} + \sqrt{75} = 9\sqrt{3}$$

$$22. \quad \sqrt{80} - \sqrt{45} = \sqrt{5}$$

$$\sqrt{16} \sqrt{3} + \sqrt{25} \sqrt{3} =$$

$$\sqrt{16} \sqrt{5} - \sqrt{9} \sqrt{5} =$$

$$4\sqrt{3} + 5\sqrt{3} = 9\sqrt{3}$$

$$4\sqrt{5} - 3\sqrt{5} = 1\sqrt{5} = \sqrt{5}$$

$$25. \quad \sqrt[3]{54} + \sqrt[3]{16} = 5\sqrt[3]{2}$$

$$26. \quad \sqrt[3]{375} - \sqrt[3]{24} = 3\sqrt[3]{3}$$

$$\sqrt[3]{27} \sqrt[3]{2} + \sqrt[3]{8} \sqrt[3]{2} =$$

$$\sqrt[3]{125} \sqrt[3]{3} - \sqrt[3]{8} \sqrt[3]{3} =$$

$$3\sqrt[3]{2} + 2\sqrt[3]{2} = 5\sqrt[3]{2}$$

$$5\sqrt[3]{3} - 2\sqrt[3]{3} = 3\sqrt[3]{3}$$