

A.56 Algebra II-Homework
Adding/Multiplying Radicals

Name _____
Pd. _____ Date _____

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

$$2. \sqrt[3]{48} = \sqrt[3]{8 \cdot 6} = 2\sqrt[3]{6}$$

$$3. \sqrt{22} \cdot \sqrt{33} \cdot \sqrt{12}$$

$$= \sqrt{11 \cdot 2 \cdot 11 \cdot 3 \cdot 3 \cdot 4}$$

$$= 11 \cdot 3 \cdot 2\sqrt{2} = 66\sqrt{2}$$

$$4. 4\sqrt{7} - 10\sqrt{7} = -6\sqrt{7}$$

$$5. 5\sqrt[3]{4} - 2\sqrt[3]{4} + 15\sqrt[3]{4}$$

$$18\sqrt[3]{4}$$

$$6. \sqrt{24} + \sqrt{54} = \sqrt{4 \cdot 6} + \sqrt{9 \cdot 6}$$

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

$$7. \sqrt[3]{16a^3b^4} = \sqrt[3]{8 \cdot 2a^3b^4}$$

$$= 2ab\sqrt[3]{2b}$$

product

$$8. 2\sqrt{20} \cdot -5\sqrt{30} = (2\sqrt{4 \cdot 5})(-5\sqrt{5 \cdot 6})$$

$$= -10 \cdot 2\sqrt{5 \cdot 5 \cdot 6}$$

$$= -20 \cdot 5\sqrt{6} = -100\sqrt{6}$$

$$9. \sqrt{54x^6y^{10}} = \sqrt{27 \cdot 2x^6y^{10}}$$

$$= 3x^2y^3\sqrt{2y}$$

$$10. -3\sqrt{8} = -3\sqrt{4 \cdot 2}$$

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

$$11. 2\sqrt{3} - 3\sqrt{3} + \sqrt{3} = 0$$

$$12. (2 + \sqrt{5})(3 - 4\sqrt{5})$$

$$6 - 8\sqrt{5} + 3\sqrt{5} - 4 \cdot 5$$

$$= -14 - 5\sqrt{5}$$

$$13. \sqrt{4} \cdot \sqrt{4} \cdot \sqrt{4} = 4$$

$$14. \underbrace{\sqrt{2} \cdot \sqrt{2}}_2 \cdot \underbrace{\sqrt{2} \cdot \sqrt{2}}_2 \cdot \sqrt{2} = 4\sqrt{2}$$