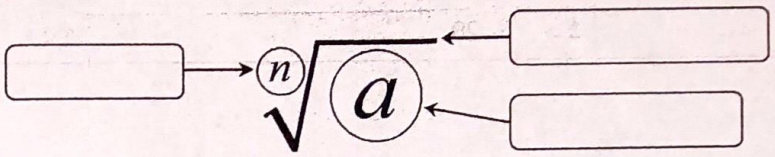
Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes/Examples
Parts of a Radical	The n^{th} root of a number, a, can be written as the radical expression $\sqrt[n]{a}$  *If there is **no index**, it is assumed that _____.
	If a radical has **more than one root**, the radical sign indicates only the **principal, or positive, root.**
Perfect Squares	**List the first 12 perfect squares:**
Perfect Square Roots	**1.** $\sqrt{16}$ **2.** $2\sqrt{121}$ **3.** $6\sqrt{289}$ **4.** $3\sqrt{400}$
Simplifying Non-Perfect Square Roots	① Find the largest perfect square that the radicand is divisible by. Break down the radical using this number. ② Take the square root of the perfect square. Take it out of the radical. ③ Leave the "leftover" under the radical symbol. **5.** $\sqrt{32}$ **6.** $\sqrt{180}$ **7.** $\sqrt{147}$ **8.** $\sqrt{175}$ **9.** $\sqrt{48}$ **10.** $2\sqrt{54}$

	11. $-5\sqrt{150}$	**12.** $8\sqrt{128}$
	13. $-3\sqrt{28}$	**14.** $4\sqrt{384}$
Perfect Cubes	**List the first 10 perfect cubes:**	
Perfect Cube Roots	**15.** $\sqrt[3]{8}$	**16.** $5\sqrt[3]{343}$
	17. $\sqrt[3]{-27}$	**18.** $2\sqrt[3]{-1000}$
Simplifying Non-Perfect Cube Roots	**Use the same method to simplify square roots, however, use the perfect cubes to break down the radical.**	
	19. $\sqrt[3]{40}$	**20.** $\sqrt[3]{192}$
	21. $2\sqrt[3]{432}$	**22.** $-2\sqrt[3]{-250}$
	23. $8\sqrt[3]{-96}$	**24.** $-3\sqrt[3]{189}$