Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Table #: \_\_\_\_\_\_\_\_ Period: \_\_\_\_\_Date: \_\_\_\_\_\_\_

**7.2B Notes – Finding Cube Roots**

*Objective: Evaluate cube roots of perfect cubes. Use cube roots to solve equations. (CCSS: 8.EE.2)*

*HW: (7.2B) p. 298 #21 – 25, 27—29, 31, 32, 34, 35*

**WARM UP**: USE THE FORMULAS TO FIND VOLUME AND SURFACE AREA OF CUBES.

Volume of a cube: V (cube) = s3 Surface area of a cube: S = 6s2 ( *s* is the side length of the cube)

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| 1. Find the volume of a cube with a side length of 9 in.Image result for cube | 2. Find the surface area of a cube with a side length of 9 in.Image result for cube |
| 3. Find the cubed root$: \sqrt[3]{3∙72}$   | 4. Find the cubed root: $\sqrt[3]{4913}$  |

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| 5. Evaluate $\sqrt{\frac{72}{8}}$ | 6. Evaluate $\sqrt{\frac{36}{81}}$  | 7. Evaluate $-\sqrt{\frac{25}{100}}$ |

**EXAMPLES 1:**

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| A. FIND THE LENGTH OF A CUBE  WITH A VOLUME OF 512,000 in3 | B. FIND THE LENGTH OF A CUBE  WITH A SURFACE AREA OF  1350 cm2. | C. Find the surface area of a cube with a volume of 343,000 mm3 |

**ON YOUR OWN:** Use cube roots to solve problems

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| 1. Find the length of a cube with a volume of  125,000 in3 | 2. Find the length of a cube with surface area of 294 cm2. |

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| 3. Find the surface area of a cube with a volume of 27 cubic feet. | 4. The volume of a music box shaped like a cube is  512 cubic centimeters. Find the surface area of  music box. |
| **EXAMPLE 2:** The pyramid has a volume of 1,536 cubic feet. What are the dimensions of the pyramid? $$\frac{1}{3}x$$ | 5. The pyramid has a volume of 144 cubic inches. What are the dimensions of the pyramid?$$\frac{1}{4}x$$ |
| **EXAMPLE 3:** Solve the equation (10x + 8)3 = 10,648 | 6. Solve the equation (25x – 25)3 = 15,625 |
| 7. Fill in with <, > or = $-\frac{3}{5} $\_\_\_\_ $\sqrt[3]{-\frac{8}{27}}$ | 8. Evaluate the expression 63 + 43  |