**Algebra 2:**

**5.1 *n*th Roots, Radicals and Rational Exponents WS**

For problems 1-2, find the specified roots of each number.

**1.** The real fourth roots of 2401 **2.** The real cube roots of -512

For problems 3-7, simplify each expression. Round your answer to 3 decimal places.

**3.**  **4.** 

**5.  6. **  **7. **

For problems 8-10, simplify each radical.

**8.  9.  10.** 

For problems 11-13, solve each equation, giving all solutions.

**11.  12.  13. **

**14.** A spherical water tower has a volume of 3784.41 cubic meters. What is the radius of the water tower?



**15.** One cube has an edge length 7 inches longer than a second, smaller cube. If the volume of the larger cube is

13,824 cubic inches, what is the volume of the smaller cube?