Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Table #: \_\_\_\_\_\_ Period: \_\_\_\_ Date:\_\_\_

**8.3A NOTES – Volume of Spheres**

*Objective: Students can use the formula for volume of a sphere to find the volume and the radius. CCSS: 8.G.9*

*HW: (8.3A) p. 352 #3 – 13 (solutions on p. A35)*

<https://www.youtube.com/watch?v=YNutS8eIhEs#t=4.083671>

|  |
| --- |
|  FORMULA FOR VOLUME OF A SPHERE:$V= \frac{4πr^{3}}{3}$ or $V= \left(4πr^{3}\right)÷3$ or $V=\frac{4r^{3}}{3}π$ |



Find the volume V or radius r of the sphere. Round your answer to the nearest tenth, if necessary.

|  |  |
| --- | --- |
|  | 1b. A snow globe has a diameter of 3cm. What is the volume of the snow globe? |
| 2a. Find the radius of the sphere with the given volume. **VOLUME = 288**$π$ **m3** | 2b. A softball has a volume of $\frac{343}{6}π$ cubic inches. Find the radius of the softball. |

|  |
| --- |
| 3. You have an ice cream scoop with a 2-inch diameter. You have an ice cream cone with a 2-inch  diameter and a height of 5 inches. If you place one scoop of ice cream on the cone and let the  ice cream melt, will it spill over the cone? Explain. |

**Warm Up**

|  |
| --- |
| 1. The cylinder and cone have the same volume. What is the height of the cone?

 |
| 1. Mr. Ben measures water running into a cylindrical pool. He calculates the rate at 5000 cubic inches per minute. The pool has a diameter of 160 inches and a height of 60 inches. What is the height, in inches, of the water in the pool after 10 minutes? Round your answer to the nearest tenth.
 |
| 1. Solve the equation

$$\frac{7}{8}x= \frac{343}{4}$$ |

|  |  |  |
| --- | --- | --- |
| **EXAMPLE 1:** Finding the Volume of a Sphere. Round the answer to the nearest tenth. | **EXAMPLE 2:** Finding the Radius of a Sphere. Volume is $972π in^{3}$ | **EXAMPLE 3:** Find the radius of a sphere with volume $\frac{729}{6}π in^{3}$ |