Geometry Lesson

BELL WORK: PLEASE TAKE YOUR MATERIALS OUT FOR TODAY.

TI-30Xa

Math Spiral Notebook

Colored Pens
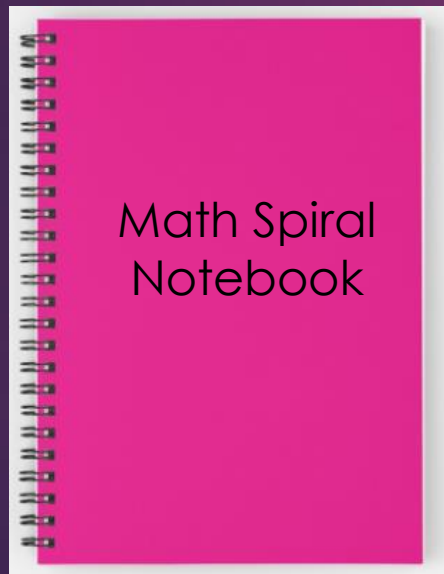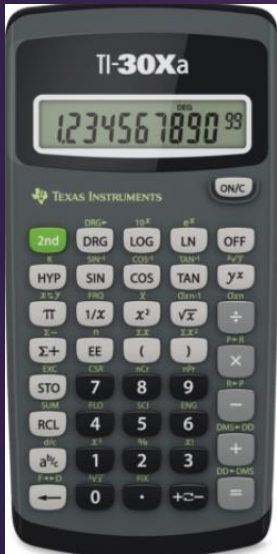
Learning Goal

▶ STUDENTS WILL COMPARE, CONTRAST AND INVESTIGATE VOLUME AND SURFACE AREAS USING COMPLEX PROBLEMS.

Tracking Progress and Celebrating Success

► **Update Your Assessment Grades for the Circle Unit**

► **Discuss Class Averages**

Table of Contents for Today

- PLEASE UPDATE YOUR TABLE OF CONTENTS FOR TODAY.

- PAGE NUMBER 13.0 AND THE LESSON IS VOLUME AND SURFACE AREA INVESTIGATION.

- THEN GO TO THE NEXT AVAILABLE PAGE AND SET UP THE NEW SHEET OF PAPER WITH THE TITLE AND PAGE NUMBER.

Examine Reasoning

- ERROR ANALYSIS
- EXAMINE THE PROBLEM. WAS THIS STUDENT CORRECT OR WAS AN ERROR MADE. IF AN ERROR WAS MADE, RECALCULATE IT AND GET THE CORRECT ANSWER.

A bowl is in the shape of a hemisphere (half a sphere) with a diameter of 14 inches. Find the volume of the bowl.
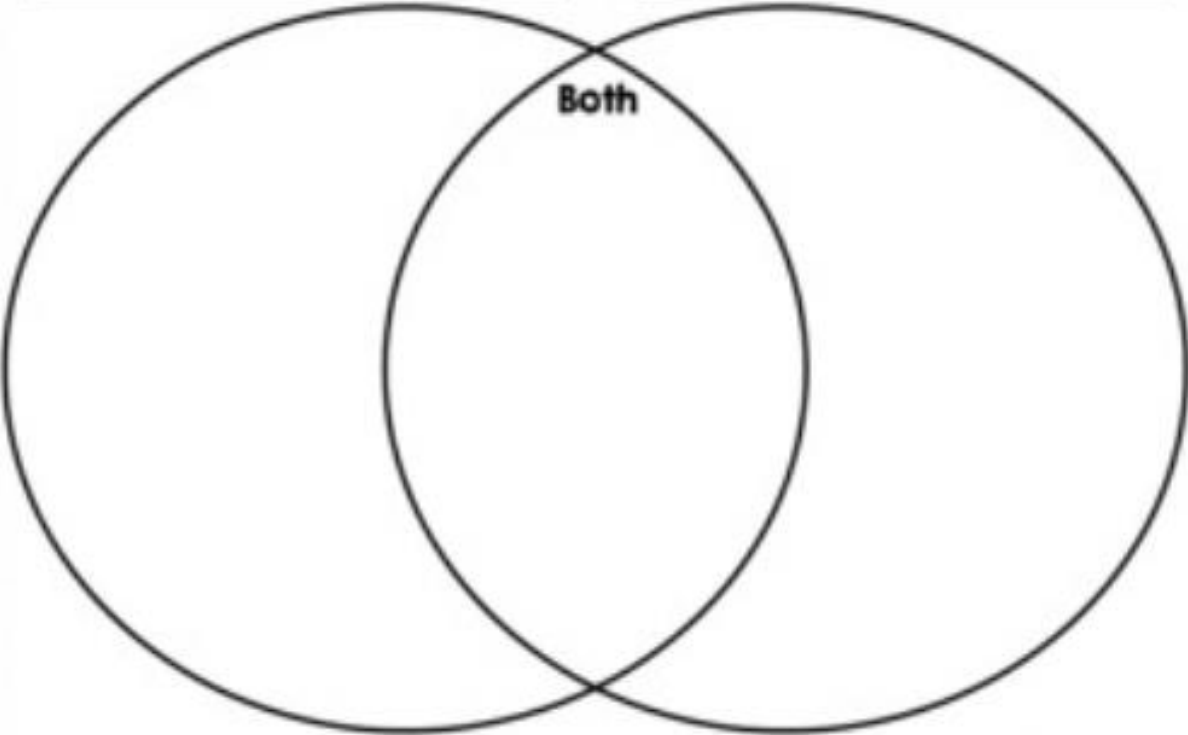
Use $\pi \approx 3.14$.

14 in.
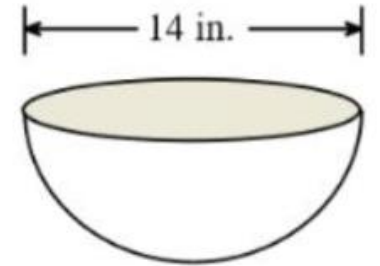
$$\frac{4}{3}\pi r^3$$

$$V = \frac{1}{2} \frac{4}{3} \pi r^3$$

$$V = \frac{1}{2} \frac{4}{3} (3.14)(14)^3$$

$$V = \frac{1}{2} \frac{4}{3} (3.14)(2744)$$

$$V = \frac{1}{2} \frac{4}{3} (8616.16)$$

$$V = \frac{1}{2} (11488.213)$$

$$V = 5744.1 \text{ in}^3$$

Similarities and Differences

Name: _____ Date: _____

This Venn Diagram helps me to compare and contrast

Volume & **Surface Area**

Both

Engaging in Complex Tasks

▶ **Generate and test your hypotheses (predictions)**

▶ **Make a prediction on your paper. Which will be a greater amount, filling the cone with ice cream (volume) or if you dip the outside of the cone in chocolate (surface area)?**

- Calculate the volume and surface area of the cone using the information in the problem and the formulas below.

An ice cream cone has a height of 6 inches and slant height of $\sqrt{37}$ inches. The diameter of the cone is 2 inches. How many cubic inches of ice cream can you pack into the cone (volume)? If you dip the cone in chocolate, how many square inches would you have to cover to get the whole outside of the cone (surface area)? Round all decimals to the nearest tenth as needed.

$Volume = \frac{1}{3}\pi r^2 h$

$V = \frac{1}{3}\pi(radius)^2(height)$

$Surface\ Area = \pi r^2 + \pi r l$

$SA = \pi(radius)^2 + \pi(radius)(slant\ height)$

Revise Knowledge

▶ How has your understanding changed after completing your calculations?

▶ Were your predictions correct? What has this investigation taught you about volume and surface area?

Homework

▶ If time allows, please begin your homework on Volume and Surface Area on MathXL.