

Math Grade 8 E

Grade Level Standard(s):

KY.8.G.9

Required Assessment Materials:

- Math 8 E Formula Sheet
- Math 8 E Attainment Task Questions for Student Use

Response Code:

- Indicate the answer provided by the student.

Text Coding:

- “Quotation marks” indicate the script that the teacher should read to the student.
- *Italicized text* provides further direction for the test administrator.
- Words in parenthesis () are optional; they may replace or be read in addition to the word(s) immediately preceding.

a.

803.84 inches cubed

803.84

b.

267.95 inches cubed

267.95

c.

16.75 inches cubed

16.75

Before beginning task administration, please ensure that all conditions specified in the administration protocol (starting on page 9 of the Administration Guide Overview and Attainment Task Administration) have been met. Inform the student that the task is about to start by saying, “We are about to start the task, and I am going to ask you some questions.”

All questions from this task are available for presentation to the student in the material Math 8 E Attainment Task Questions for Student Use.

If needed, remind the student about the task scenario by rereading, “Layla is babysitting her little sister. Her sister is playing with her toy blocks.”

“Layla’s sister begins to roll her ball. Layla tells her sister that a ball is a sphere.”

Present the student with Math 8 E Formula Sheet: Volume of a Sphere.

4. “What is the volume of a basketball with a radius of 4 inches?”

Response Option	Response Rationale
a. 803.84 inches cubed	<i>The student uses the formula for the volume of a sphere and correctly substitutes 4 for the measurement of the radius, then computes 4 cubed and multiplies the sum times Pi, then multiplies by 4, the denominator of the fraction in the formula, but forgets to divide the total by 3 .</i>
b. 267.95 inches cubed (Correct)	<i>The student correctly solves the equation using the formula for the volume of a sphere and substituting the digit 4 as the measurement of the radius.</i>
c. 16.75 inches cubed	<i>The student uses the formula sheet but forgets to cube the radius when solving the formula.</i>
Depth of Knowledge (DOK) 2	

Math 8 E Formula Sheet

Volume of a Sphere: $V = \frac{4}{3} \pi r^3$

where r = radius

Math 8 E Attainment Task Questions for Student Use

4. What is the volume of a basketball with a radius of 4 inches?

Kentucky Academic Standard: KY.8.G.9 - Apply the formulas for the volumes and surface areas of cones, cylinders and spheres and use them to solve real-world and mathematical problems.

MP.1, MP.7, MP.8

Alternate Assessment Target: *No limitations. All parts of the Kentucky Academic Standard are eligible to be included as an assessment item.*

Student Group	Number of Students*	Percent Correct #4
All Students	591	27.24%
Gender		
Female	212	29.72%
Male	379	25.86%
Ethnicity		
African American	67	29.85%
American Indian or Alaska Native	<10	Not Reported
Asian	10	30.00%
Hispanic of Latino	42	38.10%
Native Hawaiian of Pacific Islander	<10	Not Reported
White (Non-Hispanic)	437	26.32%
Two or More Races	33	21.21%
English Learner	36	19.44%
Economically Disadvantaged	440	27.27%

*Number of students that attempted the item