

Assessments

Pre-Assessment

Name: _____ Date: _____ Period _____

Rectangular Prism Pre-test

Math 6 – Not for a grade

Multiple Choice. CIRCLE the choice that best completes the statement or answers the question.

Justify. Explain strategies and show calculations with words, pictures, charts, tables, calculations, formulas, etc. Include math vocabulary.

6.4.E Determine the surface area and volume of rectangular prisms using appropriate formulas and explain why the formulas work.

1. Anastasia keeps her favorite necklace in a cubic box. The area of one face is 49 cm^2 . What is the surface area of her box?

Include a picture along with your calculations.

- a. 196 cm^2
- b. 294 cm^2
- c. 2401 cm^2
- d. 98 cm^2

6.4.E Determine the surface area and volume of rectangular prisms using appropriate formulas and explain why the formulas work.

Pacific Place Theater concession sells popcorn in a box. The dimensions of the box are shown. Answer question 3 through 5 using this information.



10 in.

3 in.

6 in.

2. How many inches of cardboard are needed to make the popcorn box? (There is no lid on the box.)

- a. 216 in^2
- b. 324 in^2
- c. 198 in^2
- d. 180 in^2

6.4.E Determine the surface area and volume of rectangular prisms using appropriate formulas and explain why the formulas work.

3. What is the volume of popcorn that this popcorn box can hold? (No popcorn overflows from the box.)

- a. 180 in^3
- b. 19 in^3
- c. 198 in^3
- d. 360 in^3

4. Jamaal, Muhammad, Bryan, Jose, and Adrien go to the movies to see *The Avengers*. They decide to share a box of popcorn. If they split the box equally, how much popcorn does each boy get?

- a. 45 in^3
- b. 43.2 in^3
- c. 39.6 in^3
- d. 36 in^3

6.4.E Determine the surface area and volume of rectangular prisms using appropriate formulas and explain why the formulas work.

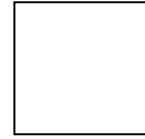
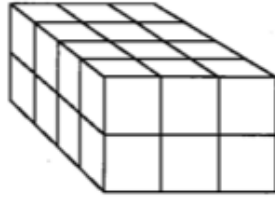
5. A box of cereal has a volume of 384 in^3 . If the width of the box is 4 inches and the length is 8 inches, what is the height of the box?

- a. 6 inches
- b. 7 inches
- c. 12 inches
- d. 8 inches

6.4.G Describe and sort polyhedra by their attributes: parallel faces, types of faces, number of faces, edges, and vertices.

6. The rectangular prism has 6 faces, 12 edges, and 8 vertices.

True or False



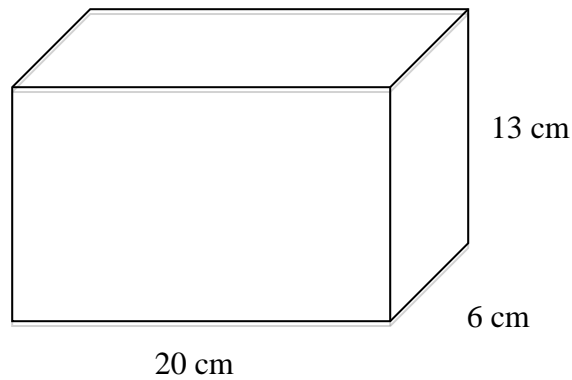
Lesson 1 Assessment

Name: _____

Period: _____

Entrance Ticket: Rectangular Prisms Day 1

Find the surface area and volume of the following rectangular prism.



Surface area:

Volume:

Lesson 2 Assessment

Name: _____

Period: _____

Exit Ticket: Rectangular Prisms Day 2

Explain what *surface area* and *volume* mean in your own words.

What is a question you have about rectangular prisms **or** is there a fuzzy concept you need clarification on?

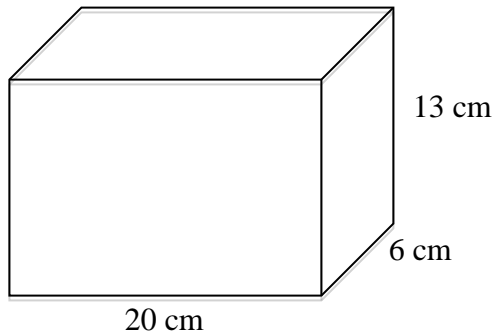
Lesson 3 Assessment

Name: _____

Period: _____

Exit Ticket: Rectangular Prisms Day 3

Find the surface area and volume of the following rectangular prism.



Surface area:

Volume:

On a scale from 1-5, how comfortable do you feel finding the surface area and volume of rectangular prisms? Rating _____

Explain your reasons as to why you gave yourself the rating above.

Include your method for finding the surface area and volume of rectangular prisms.

Lesson 4 Assessment

Name: _____

Period: _____

Exit Ticket: Rectangular Prisms Day 4

Read the following learning targets from the past three days.

In the space below each learning target reflect on what *concepts you learned, procedures or formulas* you can now apply and understand, what *problem solving skills* you gained, and *new ideas* as to why these learning targets are important. Also, include any confusion you still may have.

Central Focus: **Students will connect the relationship between the dimensions of a rectangular prism to its surface area and volume.**

- Students will be able to see connections between the dimensions of a rectangular prism and its volume and surface area. Students will also recognize that rectangular prisms may have the same volume but different surface areas.

- Students will be able to predict which rectangular prism arrangement, from multiple arrangements with similar volumes, has the smallest surface area and will describe a strategy for finding the surface area of a rectangular prism.

- Students will discover that prisms can be filled with identical layers. From this discovery students make the connection from the layers filling the prism to the volume and thus will develop a formula for finding the volume of a rectangular prism.

Post-Assessment

Name: _____ Date: _____ Period _____

Rectangular Prism Post-test

Math 6

Multiple Choice. CIRCLE the choice that best completes the statement or answers the question.

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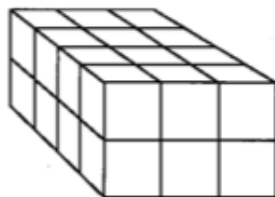
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True or False

Explain your answer!



Evaluation Criteria

Filling and Wrapping Post Assessment Checklist and Rubric

Name: _____

- Have I checked my solution?
- Have I shown my work?
- Do I have multiple representations?

- Checklist

- Correct answer
- Mathematical work shown

- Multiple Representations

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|--|--|
| <ul style="list-style-type: none"> • Exceeding Standard • (95%-100%) | <p>Correct answer and shown mathematical work</p> <p><u>Multiple representations- examples listed below</u></p> <p>Define mathematical terms</p> <p>Draw or label pictures and diagrams</p> <p>Explain the formula or equation used</p> |
| <p>Meeting Standard</p> <p>(86%-89%)</p> | <p>Correct answer and shown mathematical work</p> <p><u>At least one representation- examples listed below</u></p> <p>Define mathematical terms</p> <p>Draw or label pictures and diagrams</p> <p>Explain the formula or equation used</p> |
| <p>Approaching Standard</p> <p>+</p> <p>(78%)</p> | <p>Correct answer but little mathematical work shown</p> <p>OR</p> <p>Incorrect answer but mathematical work shown (math work partly correct)</p> |
| <p>Approaching Standard</p> <p>-</p> <p>(65%)</p> | <p>Correct answer and no mathematical work shown</p> <p>OR</p> <p>Incorrect answer and little mathematical work shown</p> |

- Explanation of procedures used: calculations, formulas, equations
- Define mathematical terms
- Draw or label pictures and diagrams