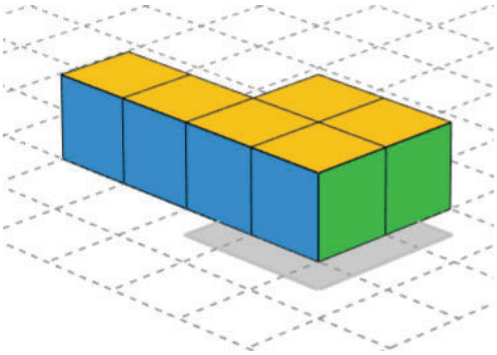
NAME DATE PERIOD

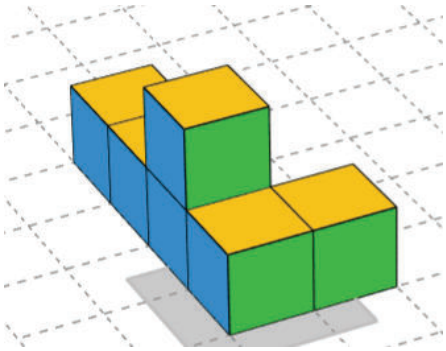
Test 2 Study Guide

1. Polyhedrons P and Q, shown below, both have a volume of 6 cubic units. How do their surface areas compare?

P



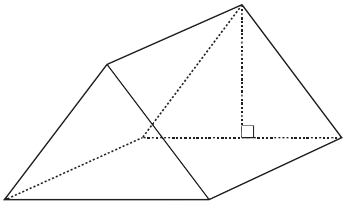
Q



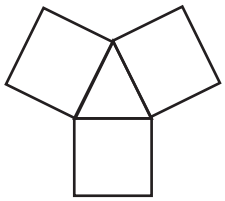
A. P's surface area is less than Q's surface area.
B. P's surface area is equal to Q's surface area.
C. P's surface area is greater than Q's surface area.
D. There is not enough information given to compare their surface areas.

Stuck? Review Lesson 15 Practice Problem #5 on p. 99 and Lesson 16 Practice Problem #3 on p. 104 of your workbook.

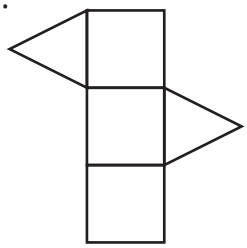
2. Select all of the nets that can be folded and assembled into a triangular prism like this one.



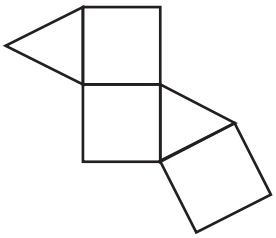
a.



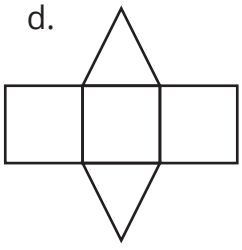
b.



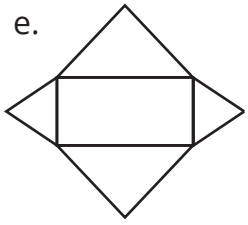
c.



d.



e.



Stuck? Review Lesson 14 Task 1 and Practice Problem #2 on p. 93 of your workbook.

3. A cube has a side length of 5 inches.

Select **all** the values that represent the cube's **volume** in cubic inches.

A. $5 \cdot 5 \cdot 5$

B. 5^2

C. 5^3

D. $6 \cdot 5^2$

Stuck? Review Lesson 18 Notes handout and Task 1 on p. 111 of your workbook.

4. a. A square has a side length of 7 cm. What is its area?

b. A square has an area of 81 cm^2. What is its side length?

Stuck? Review Lesson 17 Task 1 & 4 on p. 106-107 of your workbook.

5. For each pair of numbers, circle the number that is greater.

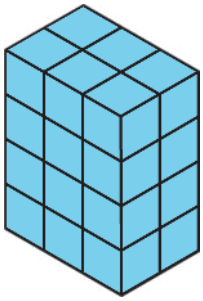
a. 11^2 or 13^2

b. 3^3 or $4 \cdot 3^2$

c. 5^3 or 10^2

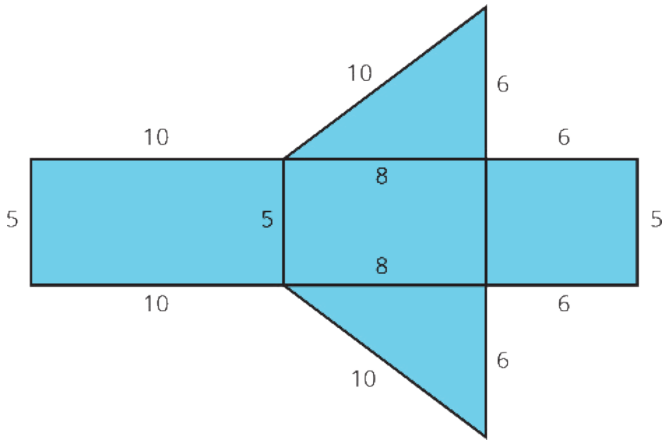
Stuck? Review Lesson 18 Notes handout and Task 1 on p. 111 of your workbook.

6. A rectangular prism has dimensions of 2 cm by 3 cm by 4 cm. What is its surface area? Explain or show your reasoning.



Stuck? Review Lesson 15 Task 3 on p. 96 of your workbook.

7. Here is a net made of right triangles and rectangles. All measurements are given in centimeters.

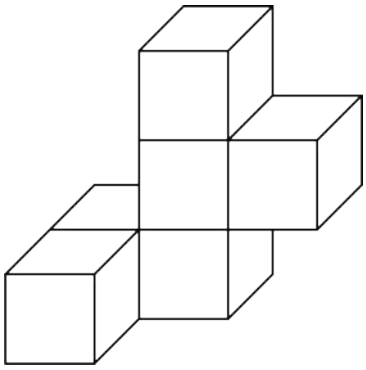


a. If the net were folded and assembled, what type of polyhedron would it make?

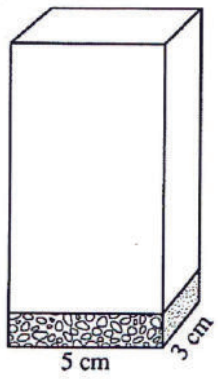
b. What is the surface area of the polyhedron? Explain your reasoning.

Stuck? Review Lesson 15 Practice Problem #1 on p. 98 of your workbook.
Need more practice with this task? Do "Surface Area Using Nets" and "Finding Surface Area by Adding Faces" on Khan Academy.

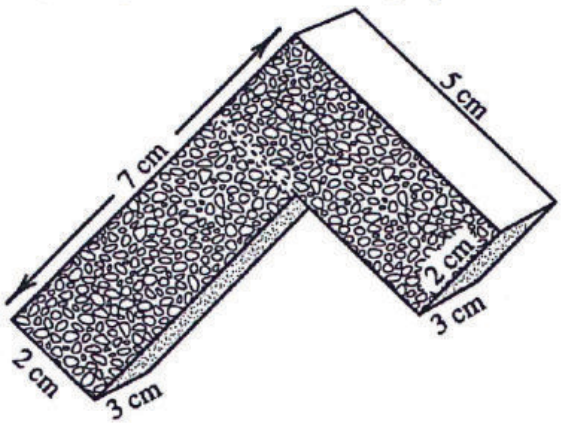
8. Six cubes, each an inch on an edge, are fastened together are shown. Find the total surface area in square inches. Include the top, bottom, and sides. (Source: AMC 8)



9. The volume of the box in the following sketch is 150 cm^3. Find the number of centimeter cubes in the shaded layer. Then calculate the height of the box.



10. Two boxes are put together in the following figure. Find the volume of the figure.



Problems 9 and 10 adapted from Maneuvers with Nickels and Numbers by David A. Page, Philip Wagreigh, Kathryn Chval.