

Study Guide for Unit 1
Lessons 1-18

You should use the following items to help you study and practice for the test:

- The practice problems completed in class
- The notes (math book lessons) that we have taken in class.
- The family resources located at openupresources.org.
- Khan Academy assignments and quizzes (khanacademy.org).

On the test, you will be permitted to use:

- A calculator
- A formula sheet

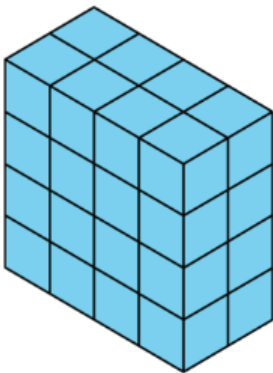
You should know how to:

- Compare the surface areas of shapes.
- Determine what nets create shapes and what shapes turn into nets.
- Find the volume of a cube ($V=s \cdot s \cdot s$)
- Find the area of a square given a side length.
- Find a side length when given the area of a square.
- Solve problems given exponents.
- Find the surface area of a rectangular prism ($SA = 2lw + 2lh + 2wh$).
- Find the surface area of a net (find the area of each shape and add them together).

Practice Problems:

Problem 1

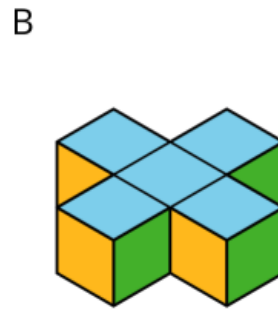
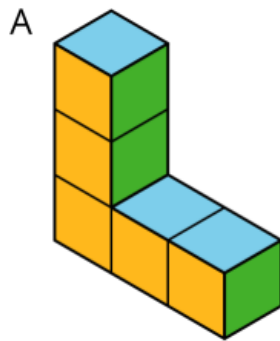
What is the surface area of this rectangular prism?



- A. 16 square units
- B. 32 square units
- C. 48 square units
- D. 64 square units

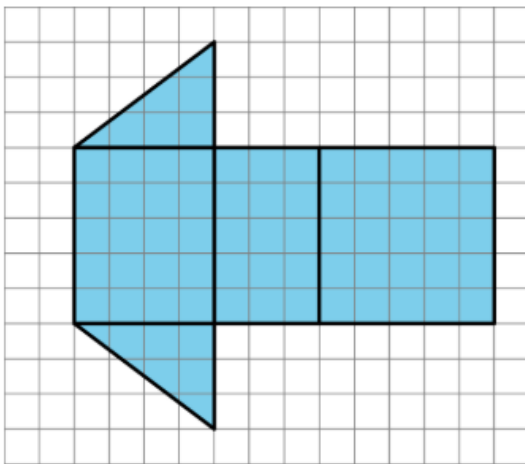
Problem 2

Which figure has a greater surface area?



Problem 3

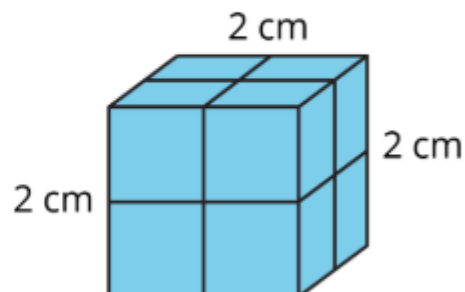
1. What polyhedron can be assembled from this net? Explain how you know.



2. Find the surface area of this polyhedron. Show your reasoning.

Problem 4

What is the volume of this cube?



Problem 5

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

Problem 6

The area of a square is 49 m². What is its side length?

Answer Key

Problem 1 - D

Problem 2 - Figure A and Figure B have the same surface area of 22 square units.

Problem 3 -

- A triangular prism. Sample explanation: There are two identical triangles that are the bases. The rest of the faces are rectangles.
- 72 square units. Sample reasoning: The area of the three rectangles are 20, 15, and 25 square units. The area of the two triangles are $2(12 \cdot 4 \cdot 3)$ or 12 square units. $20+15+25+2(6)=72$.

Problem 4 - 8 cu cm ($2 \cdot 2 \cdot 2=8$)

Problem 5 - 16 cm²

Problem 6 - 7 m