Grade 6 · Surface Area and Nets · Test

Common Core 6.G.A.4 · mathovore.fr

Name: _____ Date: ____/____/_____ Score: _____

This 45-minute test checks Grade 6 skills on surface area and nets of cubes, rectangular prisms, triangular prisms, and square pyramids, with painting and glass word problems. It has eight questions worth 20 points in all. Show your work and write square units.

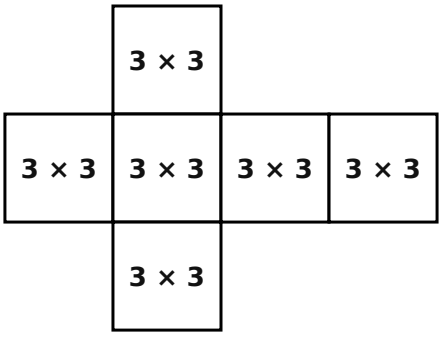
Test information

- **Grade:** Grade 6
- **Chapter:** Surface Area and Nets
- **Common Core:** 6.G.A.4
- **Time:** 45 minutes
- **Total:** 20 points (Question 1: 2 pts; Question 2: 2 pts; Question 3: 3 pts; Question 4: 3 pts; Question 5: 3 pts; Question 6: 3 pts; Question 7: 3 pts; Question 8: 1 pt)

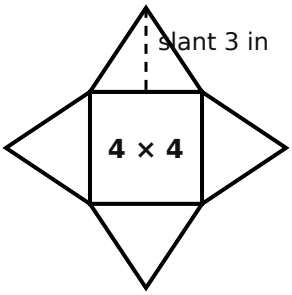
Question 1: Identify the solid (2 points)

Name the solid that each net folds into.

a. The first net *(1 point)*
b. The second net *(1 point)*



First net.



Second net.

Question 2: Cube (2 points)

Find the surface area of a cube with edges of $9\ \text{in}$.

Question 3: Rectangular prism (3 points)

Find the surface area of a rectangular prism that is $7\ \text{in}$ long, $5\ \text{in}$ wide, and $4\ \text{in}$ tall.

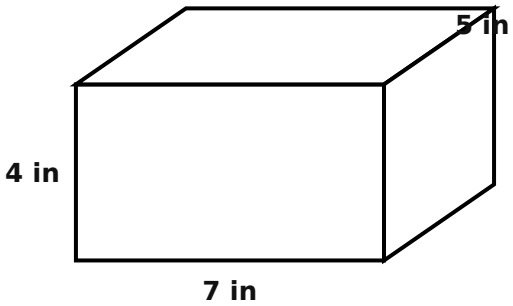


Figure for Question 3.

Question 4: Triangular prism (3 points)

Find the surface area of the triangular prism whose net is shown. Each triangle has a base of $6\ \text{ft}$ and a height of $4\ \text{ft}$, and the other two sides are $5\ \text{ft}$. The prism is $9\ \text{ft}$ long.

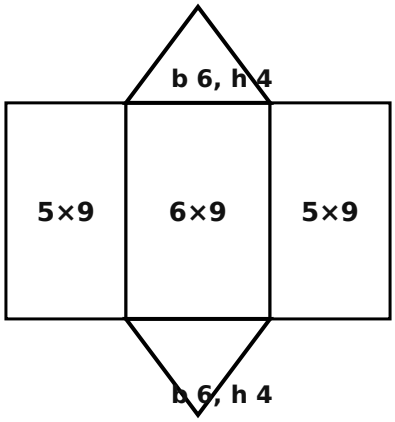


Figure for Question 4.

Question 5: Square pyramid (3 points)

A square pyramid has a base edge of $8\ \text{in}$. Each triangular face has a slant height of $7\ \text{in}$. Find its surface area.

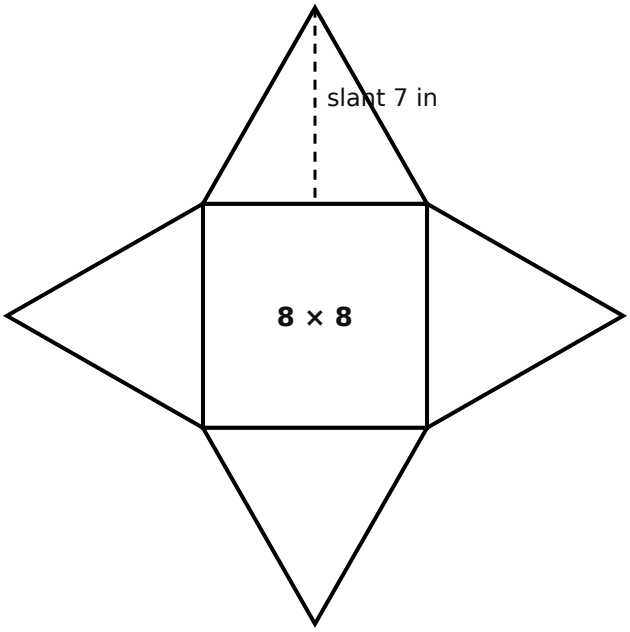


Figure for Question 5.

Question 6: Painting a crate (3 points)

Aisha paints the outside of a closed wooden crate that is $5\ \text{ft}$ long, $3\ \text{ft}$ wide, and $2\ \text{ft}$ tall. One can of paint covers $40\ \text{ft}^2$.

a. Find the surface area of the crate. *(2 points)*

b. Find the number of cans needed for one coat. *(1 point)*

Question 7: Aquarium glass (3 points)

An aquarium has no top. It is $24\ \text{in}$ long, $12\ \text{in}$ wide, and $16\ \text{in}$ tall. The glass costs $\$0.05$ per square inch.

a. Find the area of glass needed. *(2 points)*
b. Find the cost of the glass. *(1 point)*

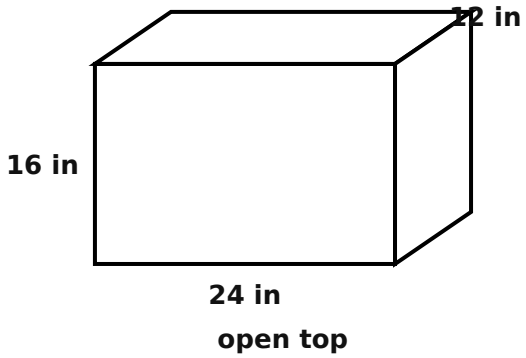


Figure for Question 7.

Question 8: Cube edge (1 point)

A cube has a surface area of $150\ \text{in}^2$. Find the length of one edge.