

Grade 6 · Surface Area and Nets · Quiz

Common Core 6.G.A.4 · mathovore.fr

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

This quick quiz has ten multiple-choice questions on nets and surface area of cubes, prisms, and pyramids. Choose one answer for each question. After you finish, read each explanation to see the common mistake behind the wrong choices.

Grade 6 Common Core: 6.G.A.4

Questions

Question 1

How many faces does the net of a rectangular prism have?

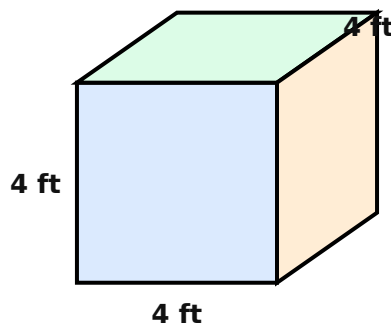
- A. 4 faces
- B. 8 faces
- C. 6 faces
- D. 5 faces

Question 2

Which set of shapes makes the net of a square pyramid?

- A. 2 squares and 4 triangles
- B. 1 square and 4 triangles
- C. 1 triangle and 4 squares
- D. 4 squares and 1 rectangle

Question 3

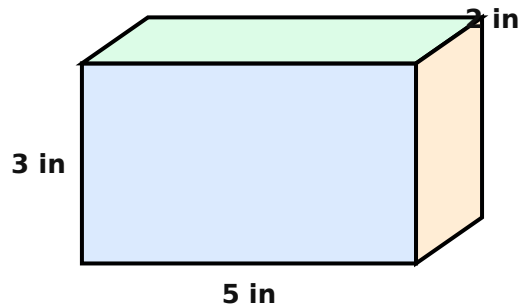


Cube for Question 3.

What is the surface area of the cube shown?

- A. 64 ft^2
- B. 16 ft^2
- C. 24 ft^2
- D. 96 ft^2

Question 4



Prism for Question 4.

What is the surface area of the rectangular prism shown?

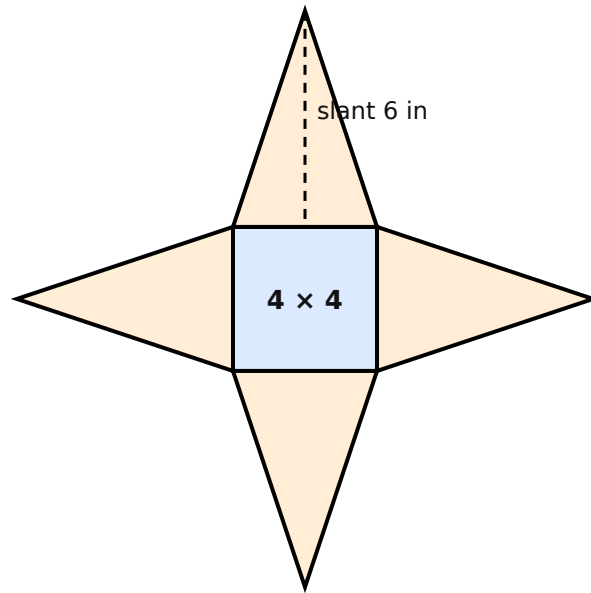
- A. 30 in^2
- B. 31 in^2
- C. 124 in^2
- D. 62 in^2

Question 5

A triangular prism has two triangular faces of 6 cm^2 each and three rectangular faces totaling 60 cm^2 . What is its surface area?

- A. 66 cm^2
- B. 60 cm^2
- C. 72 cm^2
- D. 36 cm^2

Question 6



Net for Question 6.

What is the surface area of the square pyramid with the net shown?

- A. 64 in^2
- B. 48 in^2
- C. 40 in^2
- D. 112 in^2

Question 7

Which measurement tells how much wrapping paper is needed to cover a box?

- A. volume
- B. surface area
- C. perimeter of one face
- D. length of the longest edge

Question 8

An open box with no lid is 6 in long, 4 in wide, and 3 in tall. What is the area of its outside surface?

- A. 108 in^2
- B. 84 in^2
- C. 72 in^2
- D. 60 in^2

Question 9

Noah paints all faces of a cube-shaped bin with edges of 3 ft. Paint costs \$2 per square foot. What is the cost?

- A. \$54
- B. \$18
- C. \$216
- D. \$108

Question 10

A cube has a surface area of 54 in^2 . What is the length of one edge?

- A. 3 in
- B. 9 in
- C. 6 in
- D. 27 in

Answer key

1. **C** - A rectangular prism has 6 rectangular faces, so its net has 6 rectangles. A triangular prism or a square pyramid has 5 faces.
2. **B** - The base of a square pyramid is a square, and each side face is a triangle that meets at the top.
3. **D** - $SA = 6 \times 4^2 = 96$. The number 64 is the volume, and 16 is the area of only one face.
4. **D** - $2(10+15+6) = 62$. The sum 31 forgets to double, and 30 is the volume.
5. **C** - $6+6+60 = 72$. Counting only one triangle gives 66, and ignoring both gives 60.
6. **A** - Base 16 plus four triangles of $\frac{1}{2} \times 4 \times 6 = 12$ each: $16+48 = 64$. The value 48 leaves out the base.
7. **B** - Wrapping paper covers the outside faces, so it is measured by surface area in square units. Volume measures the space inside.
8. **B** - Five faces: $24+2(18)+2(12) = 84$. The value 108 counts the lid, and 72 is the volume.
9. **D** - $SA = 6 \times 9 = 54 \text{ ft}^2$, and $54 \times \$2 = \$108$. The number 54 alone is the area, not the cost.
10. **A** - $54 \div 6 = 9$ for one face, and $3 \times 3 = 9$, so the edge is 3. Stopping at 9 gives the face area, not the edge.

Remember:

- A net shows all faces of a solid laid flat.
- Cube: $SA = 6s^2$. Rectangular prism: $SA = 2(\ell w + \ell h + wh)$.
- Triangular prisms and square pyramids have 5 faces; add every face.
- Surface area is measured in square units; volume is measured in cubic units.