

Grade 6 - Nets and Surface Area - Test Answer Key

Common Core 6.G.A.4 · maths-pdf.fr/en/

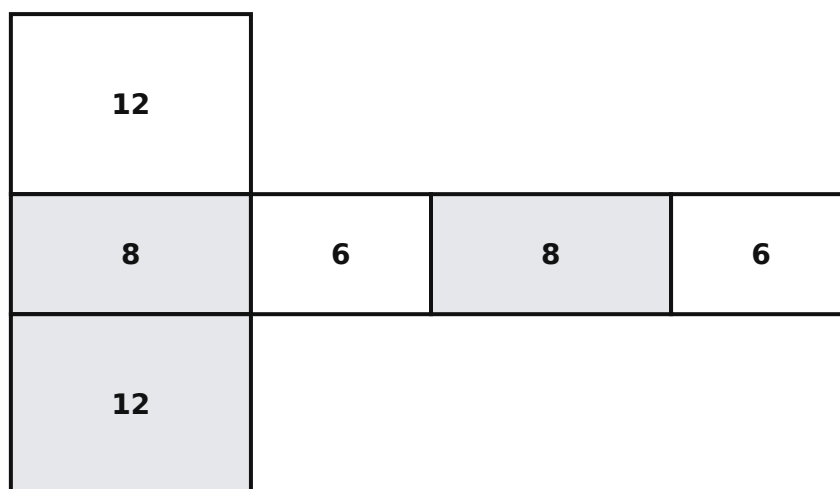
Use this key to score the surface area test out of 20 points. Each solution is fully worked, and the scoring line explains how to award each point and partial credit.

Grade 6 · Common Core State Standards: **6.G.A.4**

Question 1 - Rectangular prism [2 pts]

$$2(12+8+6)=52.$$

The surface area is 52 cm^2 .



$$12 + 8 + 6 + 8 + 6 + 12 = 52.$$

Scoring: 1 point for the face areas; 1 point for 52.

Question 2 - Cube [2 pts]

$$6 \cdot 9 \cdot 9 = 486.$$

The surface area is 486 cm^2 .

Scoring: 1 point for six faces; 1 point for 486.

Question 3 - Pyramid [2 pts]

Base: 16. Triangles: $4 \cdot \frac{1}{2} \cdot 4 \cdot 6 = 48$.

$16 + 48 = 64$ square meters.

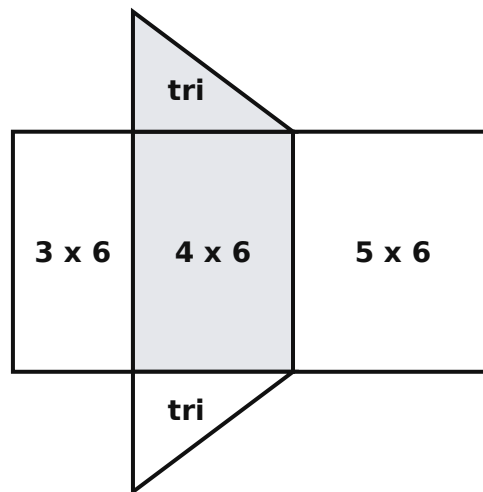
Scoring: 1 point for the base; 1 point for the triangles; 0 if the total is wrong.

Question 4 - Triangular prism [2 pts]

Triangles: $2 \cdot \frac{1}{2} \cdot 3 \cdot 4 = 12$.

Rectangles: $(3+4+5) \cdot 6 = 72$.

$12 + 72 = 84$ square inches.



Triangles total 12; rectangles total 72.

Scoring: 1 point for the triangles; 1 point for the rectangles and total.

Question 5 - Find the edge [2 pts]

$216 \div 6 = 36$, so $s = 6$.

Scoring: 1 point for dividing by 6; 1 point for 6 feet.

Question 6 - Wrap it [2 pts]

$$2(14 \cdot 8 + 14 \cdot 5 + 8 \cdot 5) = 2(112 + 70 + 40) = 444.$$

Scoring: 1 point for the three face pairs; 1 point for 444 square inches.

Question 7 - Open box [2 pts]

Bottom: 8. Sides: $2 \cdot 4 \cdot 2 + 2 \cdot 2 \cdot 2 = 16 + 8 = 24$.

$$8 + 24 = 32 \text{ square feet.}$$

Scoring: 1 point for omitting the lid; 1 point for 32.

Question 8 - Compare [3 pts]

A: $2(9 + 18 + 18) = 90$.

B: $2(16 + 12 + 12) = 80$.

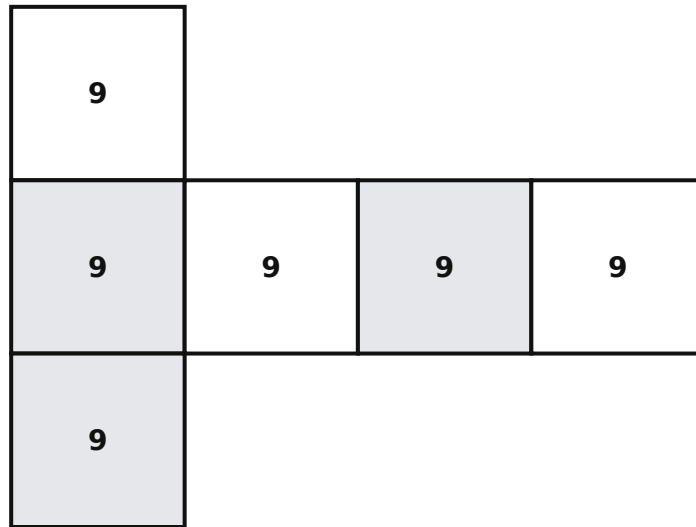
Box A needs more.

Scoring: 1 point for each surface area; 1 point for the comparison.

Question 9 - Paint cost [3 pts]

$$6 \cdot 9 = 54 \text{ square feet.}$$

$$\$0.40 \cdot 54 = \$21.60.$$



Six faces of 9 square feet.

Scoring: 1 point for the surface area; 1 point for the setup; 1 point for \$21.60.

Total
20 points