LESSON MAKER PRO

Cover Every Face

Find the surface area of rectangular prisms.

GRADE 7 · 7.GR.B.4.a

7.GR.B.4.a "Solve problems involving area, surface area, and volume of polygonal figures and polyhedral solids, including triangles, quadrilaterals, other polygons, cubes, right prisms, and pyramids–figures defined by edges and flat faces."

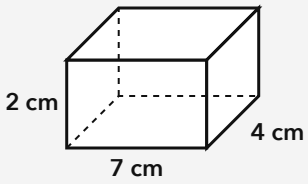
NAME _____ DATE _____

COUNT THE FACES

A rectangular prism has three pairs of matching faces. Find the area of one face in each pair, then double the sum to find the surface area.

WORKED EXAMPLE

Find the surface area of the shown prism.



1. Top and bottom: $7 \times 4 = 28$ cm^2 each.
2. Front and back: $7 \times 2 = 14$ cm^2 each.
3. Left and right: $4 \times 2 = 8$ cm^2 each.
4. Total: $2 \times (28 + 14 + 8) = 100$ cm^2.

Answer: 100 cm^2

PRACTICE 4 problems

1 Find the surface area: l = 6 cm, w = 3 cm, h = 5 cm.

ANSWER _____

2 Find the surface area: l = 8 cm, w = 5 cm, h = 3 cm.

ANSWER _____

3 Find the surface area: l = 9 cm, w = 6 cm, h = 1 cm.

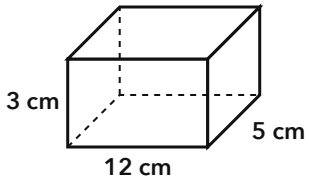
ANSWER _____

4 Find the surface area: l = 10 cm, w = 8 cm, h = 6 cm.

ANSWER _____

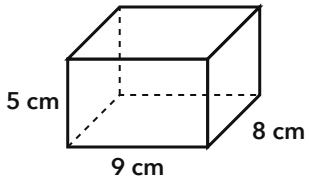
APPLY IT Show your work

1 You wrap the shown gift box. How much paper covers all six faces?



ANSWER _____

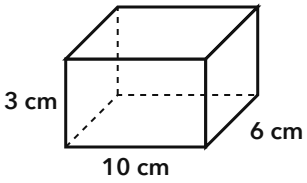
2 A club lines the bottom and four sides of the shown storage bin. What area does the lining cover?



ANSWER _____

CHALLENGE One step up

Only the four side faces of the shown display block get painted. What area is painted? Explain.



WORK SPACE AND ANSWER

ANSWER KEY

Cover Every Face

GRADE 7 · 7.GR.B.4.a

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the surface area: l = 6 cm, w = 3 cm, h = 5 cm.	**126 cm²**
2	Find the surface area: l = 8 cm, w = 5 cm, h = 3 cm.	**158 cm²**
3	Find the surface area: l = 9 cm, w = 6 cm, h = 1 cm.	**138 cm²**
4	Find the surface area: l = 10 cm, w = 8 cm, h = 6 cm.	**376 cm²**

PART 2 · APPLY IT

1. **222 cm²** Add one of each face area and double: $2 \times (60 + 36 + 15) = 222$ cm^2.
2. **242 cm²** Add the bottom and four sides: $9 \times 8 + 2 \times (9 \times 5) + 2 \times (8 \times 5) = 242$ cm^2.

CHALLENGE

96 cm². The two longer sides total 2 × (10 × 3) = 60 cm², and the two shorter sides total 2 × (6 × 3) = 36 cm². Together, they cover 96 cm².

For the challenge, also accept subtracting the top and bottom areas from the full surface area. Answers must use square centimeters.