

# Answers

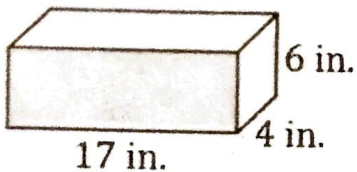
① ACCELERATED SHOW WORK HERE ↓  
(on all pages)

Find the lateral surface area of a cube that has a height of 6 m.

$$36 \times 6 = 216$$
$$216 - 72 = \boxed{144}$$

\* Lateral surface area - all the sides, not include the base & the top.

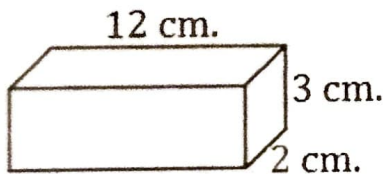
Find the lateral surface area.  
(Not the shaded sides)



②

$$2(6 \times 4) + 2(4 \times 17) =$$
$$48 + 136 =$$
$$\boxed{184}$$

Find the total surface area.



③

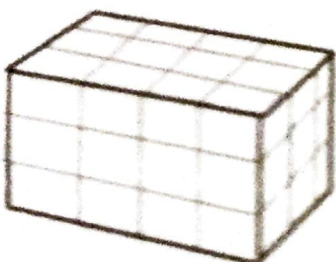
$$2(12 \times 3) + 2(3 \times 2) + 2(12 \times 2) =$$
$$72 + 12 + 48 = \boxed{132}$$

Find the surface area of a rectangular prism if the length is 5.2 cm, the width is 8.3 cm, and the height is 9.1 cm.

④

$$2(5.2 \times 8.3) + 2(8.3 \times 9.1) + 2(5.2 \times 9.1) =$$
$$86.32 + 151.06 + 94.64 =$$
$$332.02 \approx \boxed{332}$$

Find the total surface area.



⑤

$$2(3 \times 4) + 2(3 \times 4) + 2(3 \times 3) =$$
$$24 + 24 + 18 = \boxed{66}$$

Bob is painting a room that is 20 ft. long, 15 ft. wide, and 9 ft. high. How many square feet is Bob going to paint?

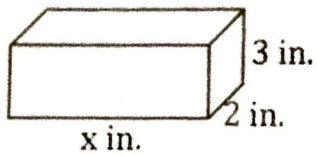
$$\textcircled{1} \quad 2(9 \times 20) + 2(15 \times 9)$$

$$360 + 270 =$$

$$\boxed{630}$$

\* Remember: You don't paint the floor!

The total area of the rectangular prism is  $112 \text{ in}^2$ . What is the value of  $x$ ?



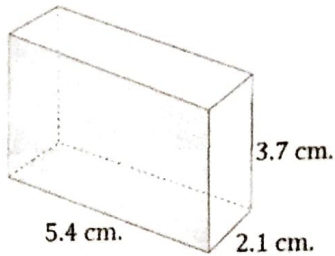
$$\textcircled{2} \quad 2(3 \times 2) + 2(2x) + 2(3x) = 112$$

$$2(6) + 4x + 6x = 112$$

$$12 + 10x = 112$$

$$\begin{array}{r} 12 + 10x = 112 \\ -12 \quad - \quad -12 \\ \hline 10x = 100 \end{array} \quad \boxed{x = 10}$$

Find the lateral surface area. (not the shaded sides)

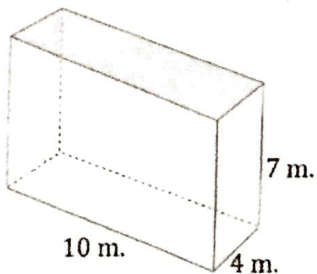


$$\textcircled{3} \quad 2(2.1 \times 3.7) + 2(2.1 \times 5.4)$$

$$15.54 + 22.68 =$$

$$\boxed{38.2}$$

Find the surface area of the box excluding the shaded base.

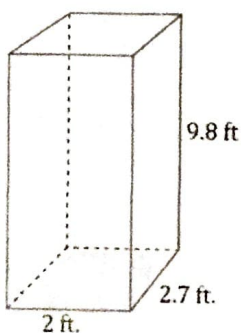


$$\textcircled{4} \quad (10 \times 4) + 2(28) + 2(70)$$

$$40 + 56 + 140$$

$$\boxed{236}$$

Find the lateral surface area.



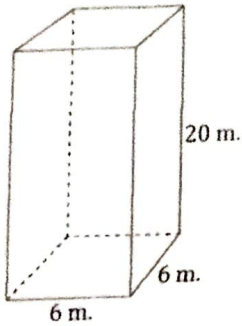
$$\textcircled{5} \quad 2(9.8 \times 2.7) + 2(2 \times 9.8)$$

$$52.92 + 39.2 =$$

$$\boxed{92.1}$$



Find the total surface area.



6

$$2(20 \times 6) + 2(6 \times 6) + 2(20 \times 6) =$$
$$240 + 72 + 240 =$$
$$\boxed{552}$$

Length = 29

Width = 3.5

Height = 7

Find the total surface area of the rectangular prism.

7

$$2(29 \times 3.5) + 2(29 \times 7) + 2(3.5 \times 7) =$$
$$203 + 406 + 49 = \boxed{658}$$

Cara bakes a rectangular cake that is 9 inches wide, 13 inches long, and 2 inches high. She removes the cake from the pan to frost it. How many square inches of frosting does she need?

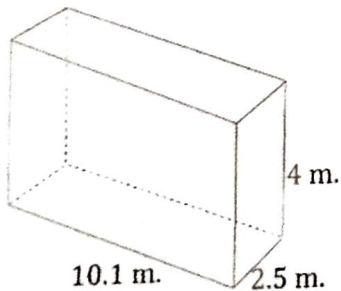
8

$$2(9 \times 13) + 2(9 \times 2) + 2(13 \times 2) =$$
$$234 + 36 + 52 = 322$$

$$322 - \text{bottom } (117) = \boxed{205}$$

\* Remember: you do not frost the bottom of a cake

Find the total surface area.



9

$$2(10.1 \times 2.5) + 2(2.5 \times 4) + 2(10.1 \times 4) =$$
$$50.5 + 20 + 80.8$$

$$\boxed{151.3}$$

The surface area of a box is 592 meters squared. The base of the box is 12 meters by 10 meters. What is the height of the box?

10

$$592 = 2(12 \times 10) + 2(10x) + 2(12x)$$

$$592 = 2(120) + 20x + 24x$$

$$592 = 240 + 44x$$

$$\underline{-240} \quad \underline{-240}$$

$$352 = 44x$$

$$\boxed{x = 8}$$