

TB(1B) Ch. 8 Areas and Volumes (I)

Multiple Choice Questions

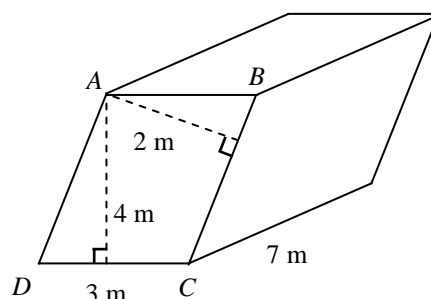
1. [11-12 Standardized Test 2 Q6]

If 100 cubes with side 5 cm are put into a rectangular tank with some water and are totally submerged, the water level will rise by 2.5 cm. Find the base area of the tank.

- A. 50 cm^2
- B. 500 cm^2
- C. $1,000 \text{ cm}^2$
- D. $5,000 \text{ cm}^2$

2. [11-12 Standardized Test 2 Q8]

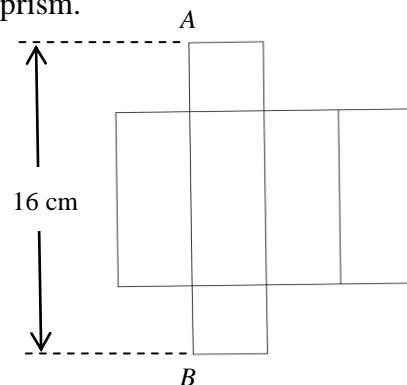
The figure shows a prism with a parallelogram base $ABCD$. Find the total area of all lateral faces.



- A. 98 m^2
- B. 122 m^2
- C. 126 m^2
- D. 150 m^2

3. [11-12 Final Exam Q9]

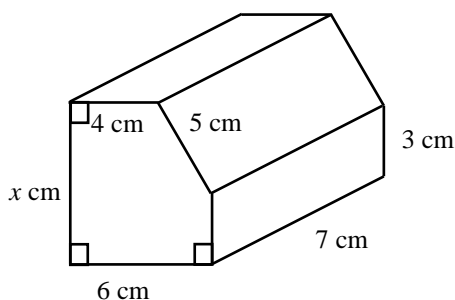
The figure shows the net of a rectangular prism. If the side of the square base of the prism is 3 cm and $AB=16 \text{ cm}$, find the total area of all lateral faces of the prism.



- A. 90 cm^2
- B. 120 cm^2
- C. 138 cm^2
- D. 144 cm^2

4. [12-13 Standardized Test 2 Q9]

In the figure, the total surface area of the prism is 285 cm^2 . Find the value of x .

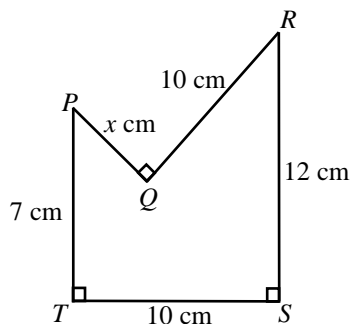


- A. 20.6
- B. 13
- C. 9
- D. 6.8

5. [12-13 Final Exam Q12]

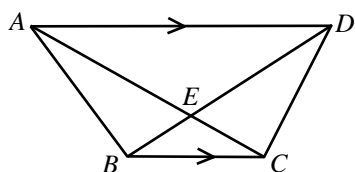
In the figure, the area of pentagon $PQRST$ is 70 cm^2 . The value of x is

- A. 5.
- B. 7.5.
- C. 10.
- D. 12.



6. [12-13 Final Exam Q19]

In the figure, E is the intersection point of AC and BD , $AD = 2BC$ and $AD \parallel BC$. Which of the following must be true?

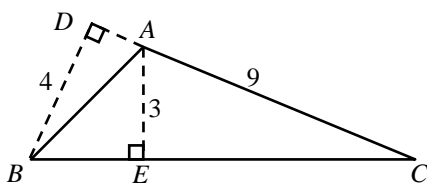


- I. Area of $\triangle ABC = \text{Area of } \triangle BCD$
- II. Area of $\triangle ABE = \text{Area of } \triangle CDE$
- III. Area of $\triangle ABD = 2 \times \text{Area of } \triangle BCD$

- A. I only
- B. II only
- C. I and II only
- D. I, II and III

7. [13-14 Standardized Test 2 Q3]

In the figure, $AC = 9$, $BD = 4$ and $AE = 3$. Find the length of BC .



- A. 6.75
- B. 10
- C. 12
- D. 24

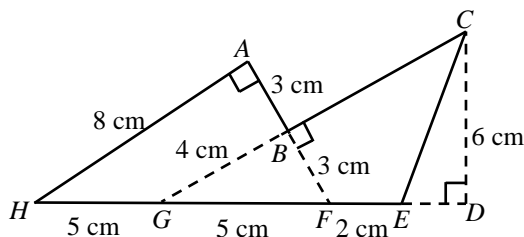
8. [13-14 Standardized Test 2 Q8]

A cube of side length 9 cm is melted and recast into x small cubes of volume 27 cm^3 . What is the value of x ?

- A. 3
- B. 9
- C. 27
- D. 243

9. [13-14 Final Exam]

In the figure, ABF , CBG and $HGFED$ are straight lines. Find the area of polygon $ABCEH$.



- A. 33 cm^2
- B. 39 cm^2
- C. 45 cm^2
- D. 78 cm^2

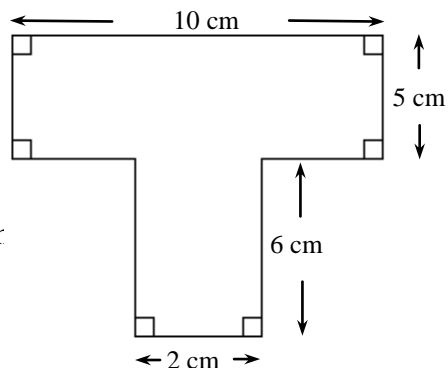
10. [13-14 Final Exam]

The total surface area of a cuboid with a square base is 1600 cm^2 . Its total area of all lateral faces is two times of its base area. Find the volume of the cuboid.

- A. 4000 cm^3
- B. 4800 cm^3
- C. 6000 cm^3
- D. 8000 cm^3

11. [14-15 Mid-Year Exam]

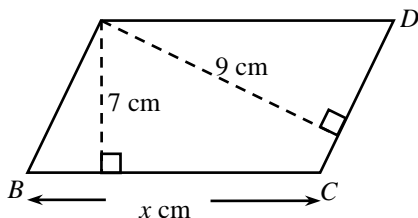
The figure shows the base of a prism. It is given that the height of the prism is 3 cm. Which of the following about the prism is wrong?



- A. Base area is 62 cm^2 .
- B. The volume is 186 cm^3 .
- C. The perimeter of the base is 42 cm.
- D. The total surface area of the prism is 188 cr

12. [14-15 Mid-Year Exam]

In the figure, $ABCD$ is a parallelogram. If the perimeter of the parallelogram is 48 cm, find the value of x .



- A. 10.5
- B. 11.5
- C. 12.5
- D. 13.5

13. [14-15 Mid-Year Exam]

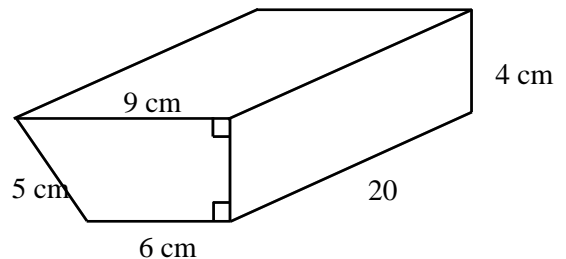
Five marbles, each of volume 20 cm^3 , are put into a tank that is filled with some water. The marbles are totally submerged and no water overflows. If the base area of the tank is 200 cm^2 , find the rise in water level.

- A. 0.1 cm
- B. 0.5 cm
- C. 2 cm
- D. 10 cm

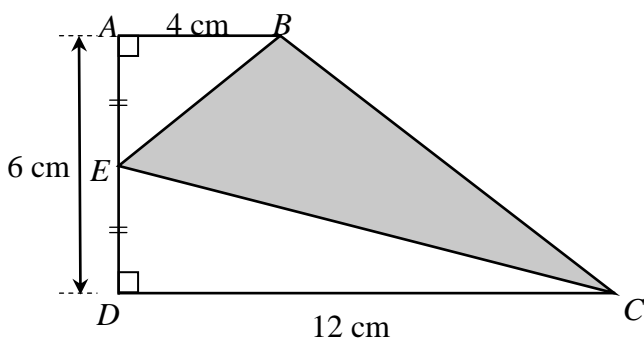
14. [14-15 Final Exam]

Find the total surface area of the following prism.

- A. 480 cm^2
- B. 510 cm^2
- C. 540 cm^2
- D. 600 cm^2



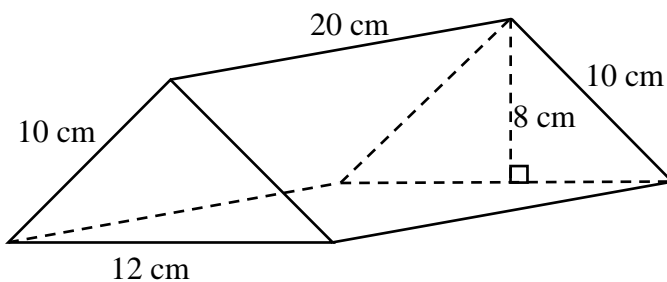
15. [15-16 Mid-Year Exam]



In the figure, $ABCD$ is a right-angled trapezium with $AB = 4 \text{ cm}$, $DC = 12 \text{ cm}$ and height 6 cm . E is the mid-point of AD . Find the area of $\triangle EBC$.

- A. 18 cm^2
- B. 24 cm^2
- C. 30 cm^2
- D. 36 cm^2

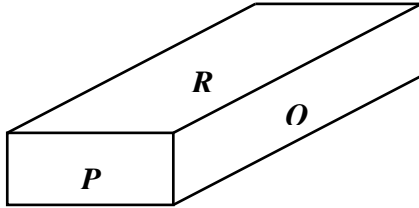
16. [15-16 Mid-Year Exam]



The figure shows a right triangular prism. Find its total surface area.

- A. 640 cm^2
- B. 736 cm^2
- C. 820 cm^2
- D. 960 cm^2

17. [15-16 Mid-year Exam]



In the figure, the areas of the surfaces P , Q and R of the cuboid are 6 cm^2 , 10 cm^2 and 15 cm^2 respectively. Find the volume of the cuboid.

- A. 30 cm^3
- B. 62 cm^3
- C. 300 cm^3
- D. 900 cm^3

18. [15-16 Final Exam, #16]

If the side of a cube is decreased by 10%, which of the following statements are true?

- I. The perimeter of the base decreases by 10%.
- II. The area of all lateral faces decreases by 20%.
- III. The percentage change in volume is -27.1% .

- A. I and II only
- B. I and III only
- C. II and III only
- D. I, II and III

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