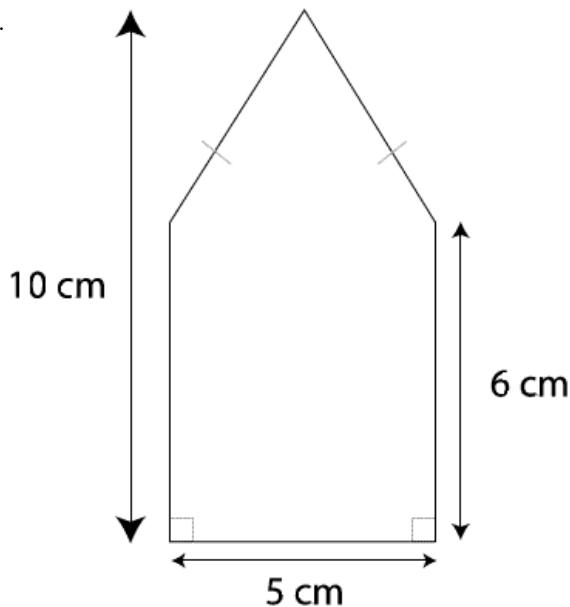


Tutor Doctor

Math 7: Measurement, 10 Questions

Please wait until the exam has fully loaded in your web browser before starting. **Do not** press "Submit" at the end of the exam until you are sure of your responses, as your test will be graded immediately. Good luck!

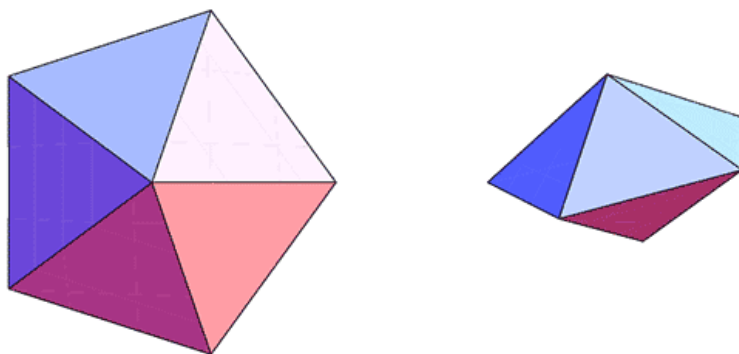
1.



The area of the figure shown above is:

- ☐ A) 45 cm^2
- ☐ B) 40 cm^2
- ☐ C) 50 cm^2
- ☐ D) 21 cm^2

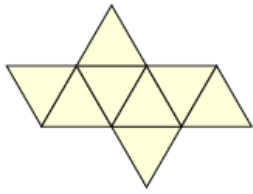
2.



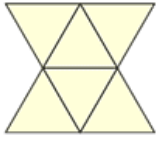
The diagram above shows the top and side views of a three dimensional object whose faces are equilateral triangles.

Which of the following could be a net for this object?

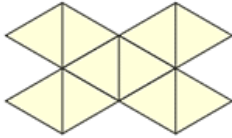
- ☐ A)



☐ B)



☐ C)



☐ D)



3.



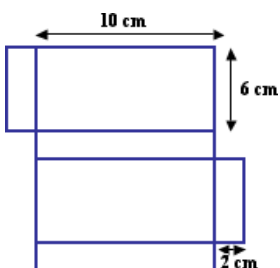
The Grade 8 students at a junior high school are building a playground for the local community center. They construct a sandbox with dimensions 2 m by 3 m by 35 cm in the shape of a rectangular prism.

A local supplier has donated sand in $10\,000\text{ cm}^3$ bags.

The number of bags needed to fill the sandbox is

- ☐ A) 200
- ☐ B) 210
- ☐ C) 220
- ☐ D) 230

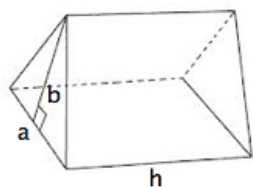
4.



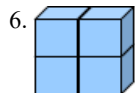
What is the surface area of the rectangular prism created by the net shown in the figure above?

- ☐ A) 120 cm^2
- ☐ B) 18 cm^2
- ☐ C) 92 cm^2
- ☐ D) 184 cm^2

5. Which is the correct formula to determine the volume of a triangular prism?



- ☐ A) $\left(\frac{a \times b}{2}\right) \times h$
- ☐ B) $2\pi(r + h)$
- ☐ C) $(\pi \times r^2) \times h$
- ☐ D) $\left(\frac{2a + 2b}{2}\right) \times h$



Rita has numerous small cubes that she can arrange to make various shapes, as she has done with the 4 cubes shown in the diagram above. How many more cubes does she need to add to this structure to make the shape of a larger cube?

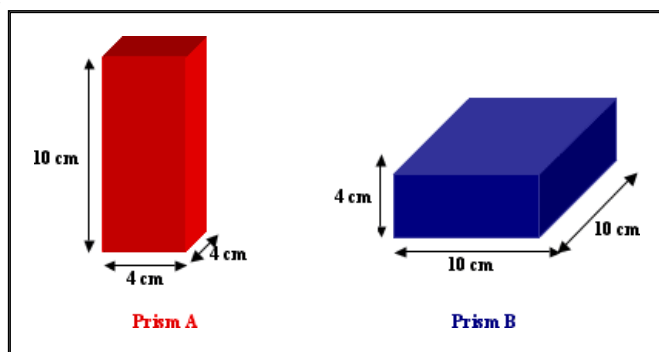
- ☐ A) 2
- ☐ B) 4
- ☐ C) 8
- ☐ D) 16

7. A cube with an edge length of 3 cm is divided up into 27 identical cubes.

How much greater is the *combined* surface area of the 27 smaller cubes than the surface area of the original cube?

- ☐ A) 26 cm^2
- ☐ B) 108 cm^2
- ☐ C) 162 cm^2
- ☐ D) 324 cm^2

8.

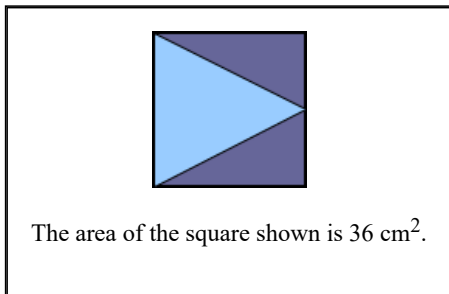


Which of the following statements about the rectangular prisms shown above is FALSE?

- ☐ A) Prism A and Prism B have different volumes
- ☐ B) The surface area of the base of Prism A is less than the surface area of the base of Prism B

- ☐ C) Prism A and Prism B have the same surface area
- ☐ D) The height of Prism A is greater than the height of Prism B

9.



Which of the following statements regarding the diagram above is false?

- ☐ A) The area of the triangle is equal to the area of the darkly shaded region
- ☐ B) The area of the triangle is equal to the area of the square
- ☐ C) The area of the triangle is half the area of the square
- ☐ D) The perimeter of the square is 24 cm

10. Refer to the information in question 9.

What is the area of the region shaded darkest?

- ☐ A) 18 cm^2
- ☐ B) 36 cm^2
- ☐ C) 0 cm^2
- ☐ D) not enough information is given to answer this question

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