

Finding Surface Area

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In this task, students will identify 2-D nets and 3-D figures and calculate surface area using nets and formulas.

STANDARDS FOR MATHEMATICAL CONTENT

MGSE6.G.4 Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.

STANDARDS FOR MATHEMATICAL PRACTICE

- 1. Make sense of problems and persevere in solving them.** Given a rectangular prisms, rectangular pyramids, triangular prisms, and triangular pyramids students will find surface area using the net.
- 2. Reason abstractly and quantitatively** – Students will use draw nets for prisms and pyramids when given the figure. Students will be able to see and justify the reasoning for decomposing and composing triangles and rectangles to solve for surface area. Students will use the relationships between two-dimensional and three-dimensional shapes to understand surface area.
- 3. Construct viable arguments and critique the reasoning of others.** Students will justify how they found surface. Students will review solutions and justify (verbally and written) why the solutions are reasonable.
- 4. Model with mathematics.** Students will sketch nets for three-dimensional shapes.
- 6. Attend to precision.** Students will use appropriate measurement units and correct terminology to justify reasonable solutions.
- 7. Look for and make use of structure.** Students will understand the relationship between the structure of a three-dimensional shape and the net and the surface area.

ESSENTIAL QUESTIONS

- How can I use manipulatives and nets to help compute the surface areas of rectangular and triangular prisms?

TEACHER NOTES

Answers

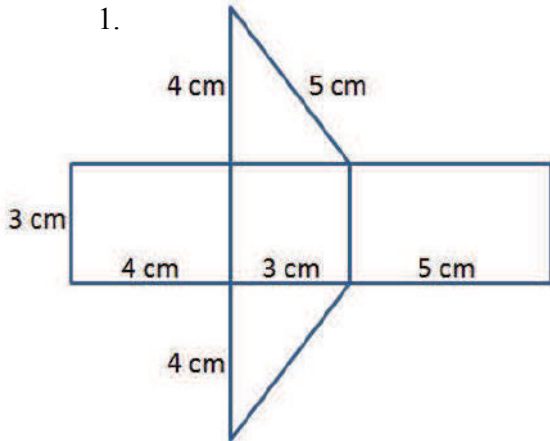
1. 48 cm^2	2. 82 mm^2	3. 94 mm^2	4. 220 cm^2	5. <i>answers will vary</i>
6. 244 in^2	7. 280 cm^2	8. 180 cm^2	9. 95 mm^2	10. 459 in^2

Name _____

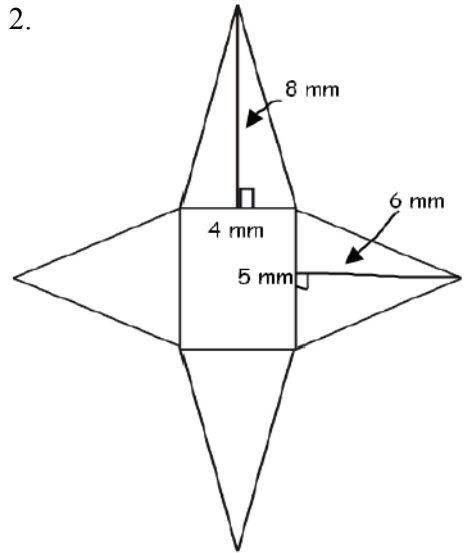
Finding Surface Area

Write the name of each figure and find the surface area of the nets drawn below.

1.



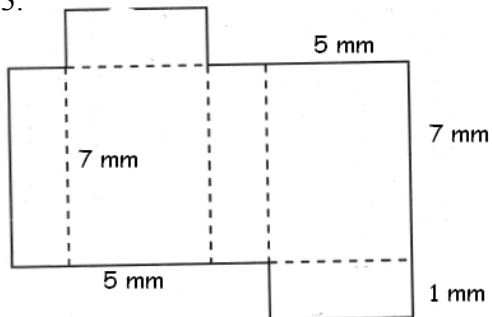
2.



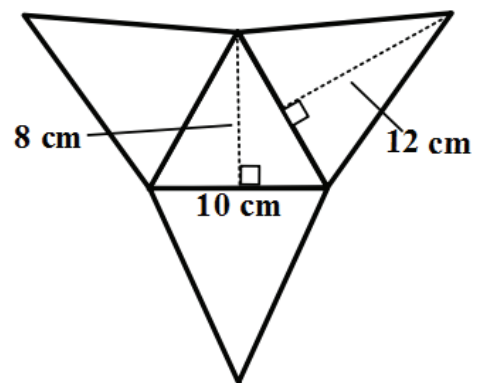
Name _____ Surface Area _____

Name _____ Surface Area _____

3.



4.



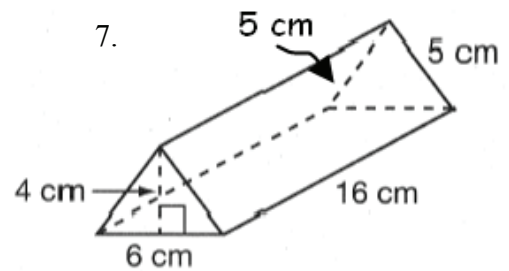
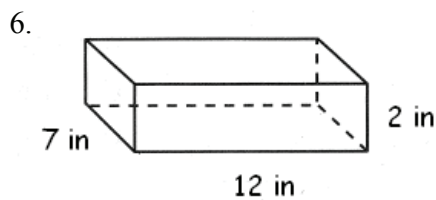
Name _____ Surface Area _____

Name _____ Surface Area _____

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5. Choose ONE of the nets above and write a constructed response that explains the steps used to calculate the surface area of the figure.

For 6-10, name each figure, draw the NET, and find the surface area.
Name each figure and the surface area of each figure.

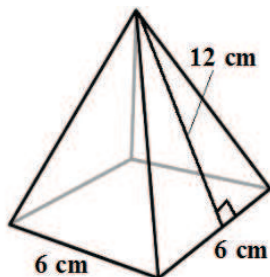


Name _____ Surface Area _____

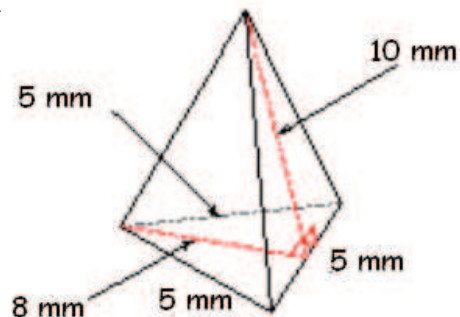
Name _____ Surface Area _____

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8.



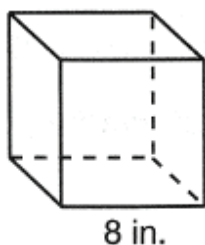
9.



Name _____ Surface Area _____

Name _____ Surface Area _____

10.



Name _____ Surface Area _____