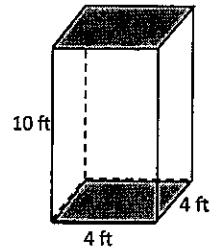


Geometry
Sections 12.1 – 12.3 Review

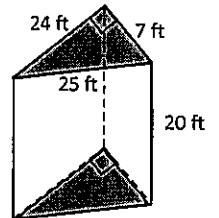
Superman_____

1. Name the polyhedron.
2. How many lateral faces are there?
3. What is the area of ONE base?



4. What is the total lateral area?
5. What is the total surface area of the rectangular prism?

-
6. Name the polyhedron.
 7. How many lateral faces are there?
 8. What is the area of ONE base?

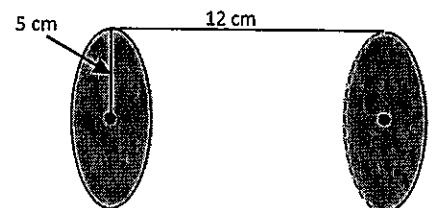


9. Find the lateral area
10. What is the total surface area of the triangular prism?

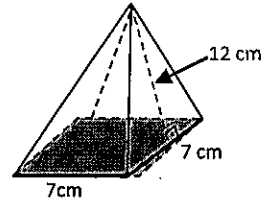
-
11. How many bases are there?
 12. What is the area of ONE base?

13. What is the lateral area?

14. What is the total surface area of the cylinder?

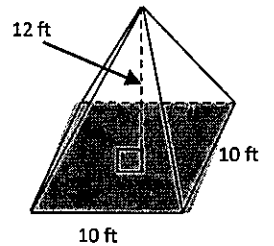


15. What is the area of the base?
16. What is the area of ONE lateral face?
17. What is the lateral area?
18. What is the surface area of the pyramid?



-
19. What is the area of the base?
 19. What is the slant height for the pyramid?

20. What is the area of ONE lateral face?



21. What is the total lateral area?

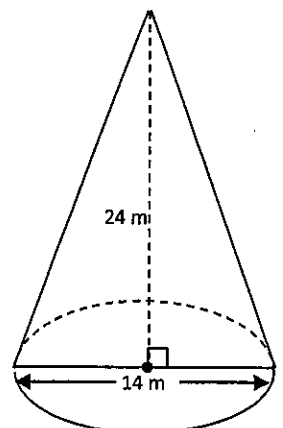
22. What is the regular pyramid's surface area?

23. What is the area of the base?

24. What is the slant height for the cone?

25. What is the lateral area of the cone?

26. What is the surface area of the cone?

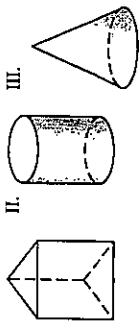


Standardized Test Practice

For use with pages 719-726

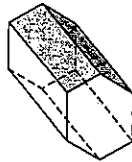
TEST TAKING STRATEGY Work as quickly as you can through the easier sections, but avoid making careless errors on easy questions.

1. **Multiple Choice** Which of the figures shown is not a polyhedron?



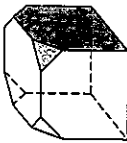
- (A) I only
- (B) II only
- (C) III only
- (D) I and II
- (E) II and III

2. **Multiple Choice** The polyhedron below has how many faces (F) and edges (E)?



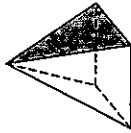
- (A) $F = 6, E = 18$
- (B) $F = 6, E = 24$
- (C) $F = 8, E = 18$
- (D) $F = 8, E = 24$
- (E) $F = 8, E = 30$

3. **Multiple Choice** The polyhedron below has how many vertices?



- (A) 14
- (B) 15
- (C) 16
- (D) 17
- (E) 18

4. **Multiple Choice** The solid below is best described as a

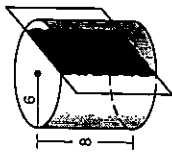


- (A) convex, regular polyhedron.
- (B) convex, nonregular polyhedron.
- (C) nonconvex, regular polyhedron.
- (D) nonconvex, nonregular polyhedron.
- (E) none of these

5. **Multiple Choice** Use Euler's Theorem to find the number of faces when a polyhedron has 8 vertices and 12 edges.

- (A) 4
- (B) 6
- (C) 8
- (D) 10
- (E) 12

6. **Multiple Choice** Which is the best description of the cross section of the figure shown?



- (A) circle
- (B) square
- (C) rectangle
- (D) oval
- (E) pentagon

7. **Multiple Choice** The name of the regular polyhedron shown is



- (A) tetrahedron.
- (B) octahedron.
- (C) cube.
- (D) dodecahedron.
- (E) icosahedron.

8. **Quantitative Comparison** Choose the statement below that is true.

- (A) The value in column A is greater.
- (B) The value in column B is greater.
- (C) The two values are equal.
- (D) The relationship cannot be determined from the given information.

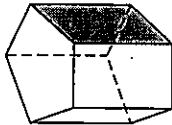
Column A	Column B
The number of vertices on a solid with 15 faces, having 9 hexagons and 6 squares	The number of vertices on a solid with 22 faces, having 16 squares and 6 triangles

Standardized Test Practice

For use with pages 728-734

TEST TAKING STRATEGY Make sure that you are familiar with the directions before taking a standardized test. This way, you do not need to worry about the directions during the test.

1. **Multiple Choice** The best mathematical name of the solid is

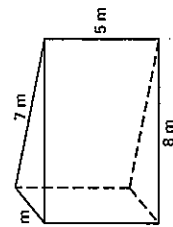


- (A) right prism.
- (B) right rectangular prism.
- (C) cube.
- (D) right pentagonal prism.
- (E) right hexagonal prism.

2. **Multiple Choice** How many lateral edges does the figure in Exercise 1 have?

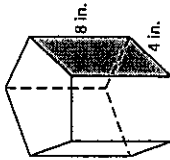
- (A) 4
- (B) 5
- (C) 7
- (D) 15
- (E) 10

3. **Multiple Choice** Find the lateral area of the right prism shown.



- (A) 105 m²
- (B) 90 m²
- (C) 85 m²
- (D) 74 m²
- (E) 114 m²

4. **Multiple Choice** Find the surface area of the regular right prism.

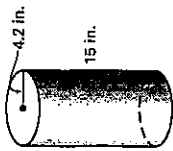


- (A) 215 in.²
- (B) 160 in.²
- (C) 105 in.²
- (D) 187.5 in.²
- (E) 270 in.²

5. **Multiple Choice** Find the surface area of a right rectangular prism with a height of 6 inches, a length of 2 inches, and a width of 8 inches.

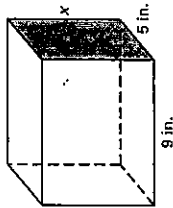
- (A) 96 in.²
- (B) 120 in.²
- (C) 152 in.²
- (D) 128 in.²
- (E) 56 in.²

6. **Multiple Choice** Find the surface area of the right cylinder. Round to the nearest hundredth.



- (A) 831.27 in.²
- (B) 252 in.²
- (C) 395.84 in.²
- (D) 506.68 in.²
- (E) 451.26 in.²

7. **Multiple Choice** Use the diagram to solve for the value of x given that the surface area of the figure is 286 in.².



- (A) 14 in.
- (B) 12 in.
- (C) 6 in.
- (D) 8
- (E)

Quantitative Comparison In Exercises 8 and 9, use the solids to choose the statement below that is true.

- (A) The value in column A is greater.
- (B) The value in column B is greater.
- (C) The two values are equal.
- (D) The relationship cannot be determined from the given information.

Column A	Column B
Lateral area	Lateral area
Surface area	Surface area

- 8.
- 9.

Standardized Test Practice

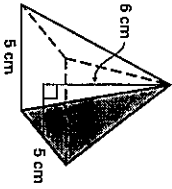
For use with pages 335–742

NAME _____

DATE _____

TEST TAKING STRATEGY If you are not satisfied with your SAT score, remember that you can take it again.

For Exercises 1–3, use the diagram below.



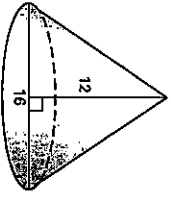
1. **Multiple Choice** Find the slant height of the pyramid.
- (A) 4.5 cm (B) 5.5 cm
 (C) 6.5 cm (D) 6 cm
 (E) 7.8 cm

2. **Multiple Choice** Find the lateral area of the pyramid.
- (A) 57.5 cm^2 (B) 65 cm^2
 (C) 32.5 cm^2 (D) 78 cm^2
 (E) 90 cm^2

3. **Multiple Choice** Find the surface area of the pyramid.
- (A) 57.5 cm^2 (B) 65 cm^2
 (C) 32.5 cm^2 (D) 78 cm^2
 (E) 90 cm^2

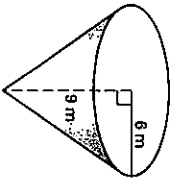
4. **Multiple Choice** Find the slant height of the cone. Round to the nearest tenth.

- (A) 20.0 (B) 10.6
 (C) 8.9 (D) 14.4
 (E) 7.1



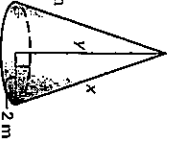
5. **Multiple Choice** Find the surface area of the cone. Round to the nearest tenth.

- (A) 317.0 m^2
 (B) 241.7 m^2
 (C) 239.4 m^2
 (D) 278.2 m^2
 (E) 452.4 m^2



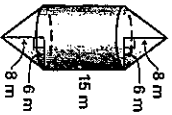
6. **Multiple Choice** Use the diagram to solve for x and y when the surface area is 138.23 m^2 .

- (A) $x = 9.8 \text{ m}, y = 10 \text{ m}$
 (B) $x = 11 \text{ m}, y = 10.8 \text{ m}$
 (C) $x = 8 \text{ m}, y = 7.7 \text{ m}$
 (D) $x = 10.8 \text{ m}, y = 10.6 \text{ m}$
 (E) $x = 20 \text{ m}, y = 19.9 \text{ m}$



7. **Multiple Choice** Find the surface area of the solid. The cylinder and cones are right. Round to the nearest tenth.

- (A) 716.3 m^2
 (B) 867.1 m^2
 (C) 1168.7 m^2
 (D) 1055.6 m^2
 (E) 942.5 m^2



8. **Multi-Step Problem** A regular pyramid has a triangular base with a base edge of 6 inches, a height of 10 inches, and a slant height of 10.33 inches.

- Sketch the solid.
- Find the lateral area.
- Find the surface area.
- Double the lengths of the base edge, height, and slant height. What is the ratio of the surface area of the smaller pyramid to the larger pyramid?

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