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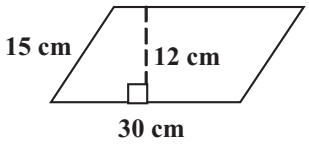
Module Test B — Module 13

Circle the correct answer for each problem.

1. What is the area of the parallelogram?



a. 450 cm^2 b. 360 cm^2 c. 225 cm^2 d. 180 cm^2

b. 360 cm^2

2. A circle has an area of 5,024 square inches. Which is closest to the length of the diameter of the circle?

a. 1,600 in. b. 800 in. c. 80 in. d. 40 in.

c. 80 in.

3. The length of a rectangular field is twice its width. What is the perimeter of the field if the width of the field is 70 meters?

a. 420 m b. 350 m c. 210 m d. 105 m

a. 420 m

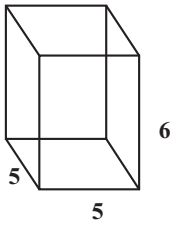
4. To the nearest inch, what is the circumference of a circle whose radius is 3.5 inches?

a. 11 in. b. 22 in. c. 38 in. d. 44 in.

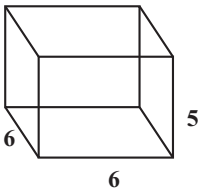
b. 22 in.

5. Which prism has a surface area of 150 square units?

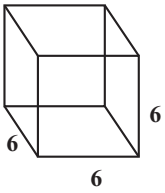
a.



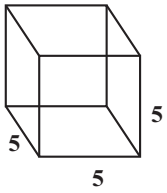
b.



c.



d.



d. *SA* = 150 sq units

Fill in the blanks with one of the following words:

square cubic triangle trapezoid height slant height lateral surface

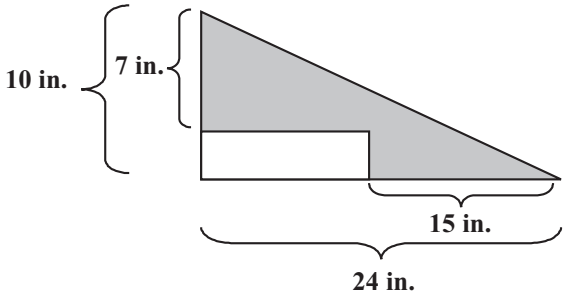
6. To find the area of a **(triangle)**, use the formula $A = \frac{1}{2}bh$.

7. It *is* necessary to find the area of a circle when finding the **(surface)** area of a cone.

8. The **(slant height)** of a pyramid is the length of the segment joining the vertex of the pyramid to an edge of the base of the pyramid at a right angle.

9. For a plane figure whose dimensions are given in millimeters, the surface area of the figure is given in **(square)** millimeters.

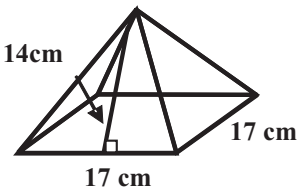
10. Find the area of the shaded region.



93 in.^{2}

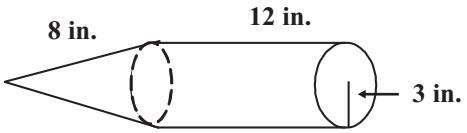
Find the surface area.

11.



765 cm^2

12.



About 329.7 in.^{2}

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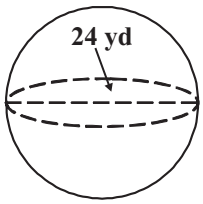
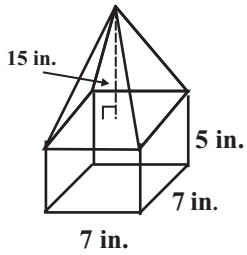
Find the volume.

13.



About 7,234.56 yd^3

14.



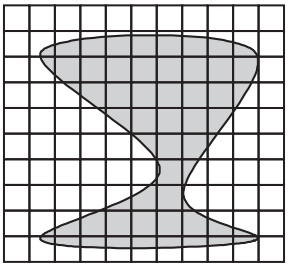
490 in.^{3}

15. The perimeter of a rectangle must be 22 feet. What whole-number dimensions will give the greatest area? Explain how you found your answer.

I made a table and listed dimensions for a rectangle with a perimeter of 22 feet ($L + W = 11$). Then, I found the area of the rectangle with each set of dimensions. The dimensions which give the greatest area are five feet by six feet.

L (ft)	W (ft)	A (ft^2)
1	10	10
2	9	18
3	8	24
4	7	28
5	6	30

16. Show how to estimate the area of the shape at right. Each ☐ is 1 km^2.



Count the squares that are completely inside the boundary: 19. Then, count the squares through which the boundary passes: 42. Take half of that: 42 ÷ 2 = 21. Add this amount to the number of squares completely inside the shape: 19 + 21 = 40. The area is about 40 km^2.