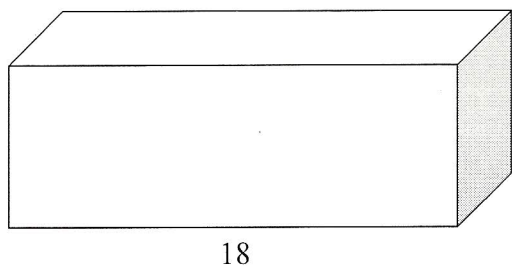


Geometry
Homework Area and Volume Unit Review

Name _____

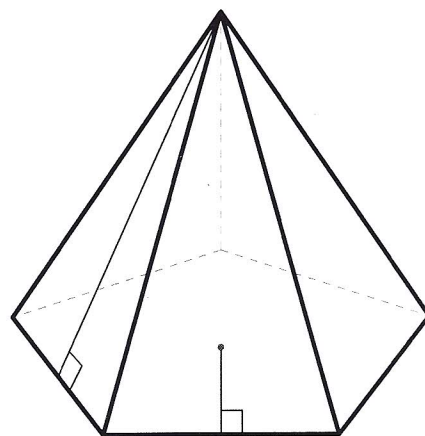
Leave all answers in exact form (in radical form or in terms of π - no rounded decimals).

1. Find the volume of the following prism if the base shaded in the diagram is a square with diagonal length of 14.

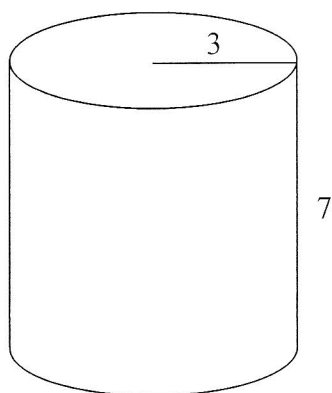


2. Below is a diagram of a regular pentagonal pyramid.
Each side of the base has a length of 6.
The apothem of the pentagon base has a length of 4.1.
The slant height of the pyramid is 10.

Find the lateral area and total surface area of the pyramid.

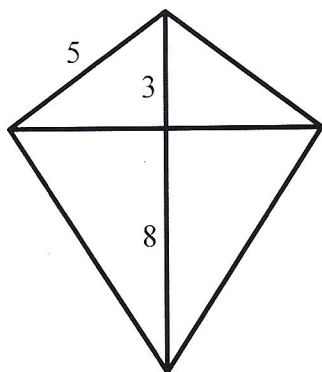


3. Find the lateral area, total surface area, and volume of the cylinder shown.



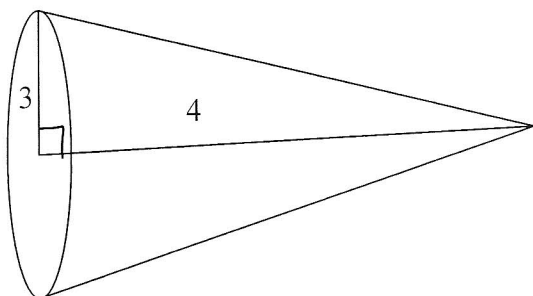
4. The surface area of a sphere is 64π . Then find the volume of the sphere.

5. Find the area of this kite:

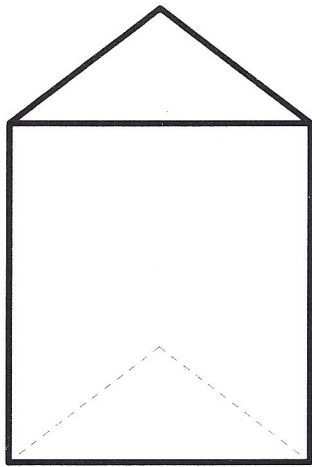


6. The perimeter of a rhombus measures 52 units. The shorter diagonal is 10 units. Find its area.

7. The radius of the base of this cone is 3.
The height is 4.
Find the lateral area, surface area, and volume of the cone.

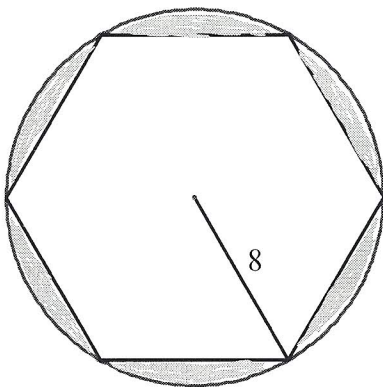


8. The bases of the following prism are equilateral triangles with each side length 4. The height of the prism is 8. Find the lateral area, total surface area, and volume of the prism.

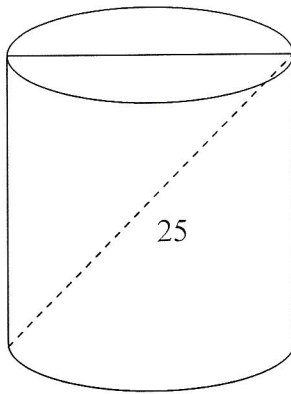


9. The apothem of an equilateral triangle measures $5\sqrt{3}$ units. Find its area.

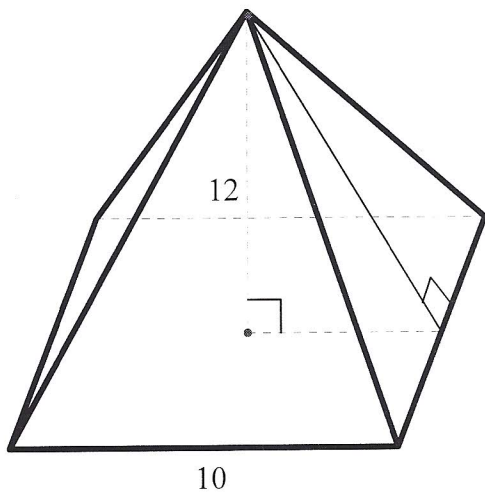
10. Find the area of the shaded region between the circle and the regular hexagon if the radius is 8.



11. This cylinder has a radius of length 12.
Find the lateral area, total surface area, and volume of the following cylinder:

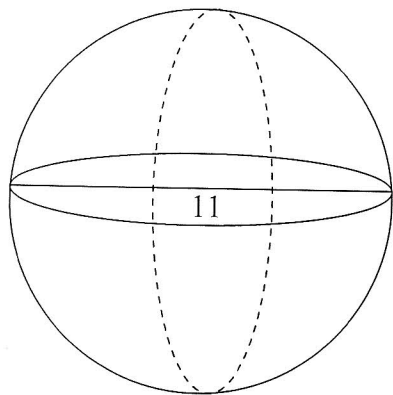


12. The following pyramid has a square base with each side length 10. The altitude is 12.
Find the lateral area, total surface area, and volume of the pyramid.

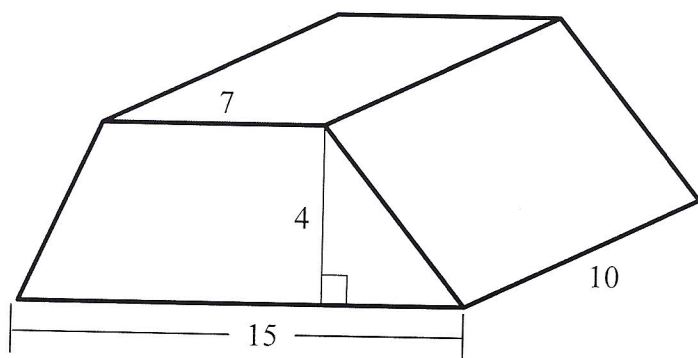


13. The height of a cylinder is 4 cm. Its volume is 100π cubic cm.
Find the diameter of its base.

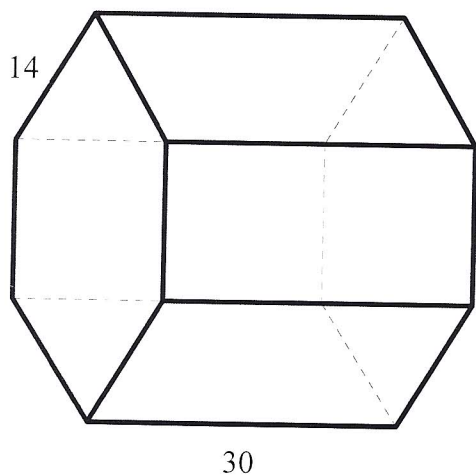
14. Find the total surface area and volume of this sphere with diameter 11.



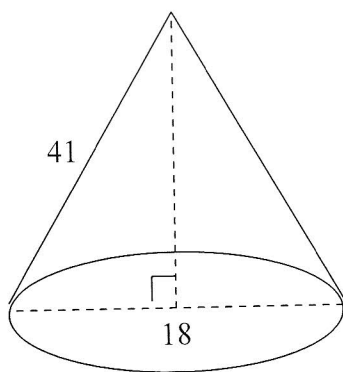
15. Find the volume of this trapezoidal prism:



16. Find the lateral area, total surface area, and volume of this regular hexagonal prism:



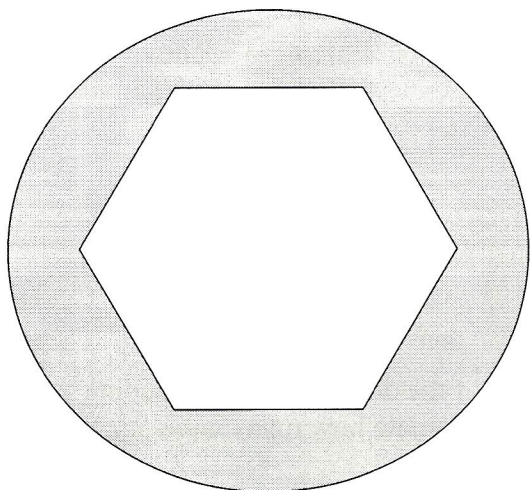
17. Find the lateral area, total surface area, and volume of the following cone:



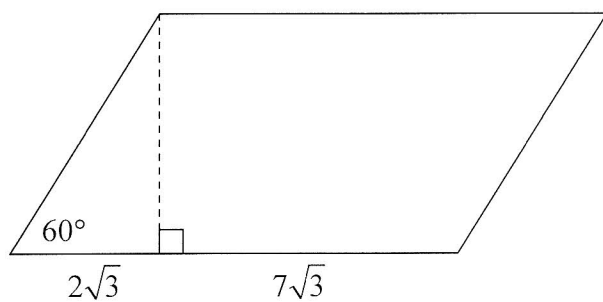
18. Each face of a cube has an area of 49 square inches.
Find the total surface area and the volume of the cube.

19. A 5 foot high cylinder has a lateral area of $60\pi \text{ ft}^2$.
Find the total surface area of the cylinder.

20. You are buying a gazebo that is hexagonal in shape with side lengths of 10 feet. You are also planning on surrounding the gazebo with an circular cement patio with the diameter of 22 feet. Calculate the area that will be covered in cement.



21. Find the area of this parallelogram.



22. There is a cylindrical bucket with a diameter of 16 inches and a height of 36 inches. The bucket is filled with 10 softballs with circumference of 12 inches. Calculate how many cubic inches of empty space is in the bucket.

23. You are building a dog house out of wood. Below is the layout of the dog house. The opening for the dog to enter will be a semicircle with a diameter of 24 inches. Calculate how many cubic inches of material you will need to complete the project.

