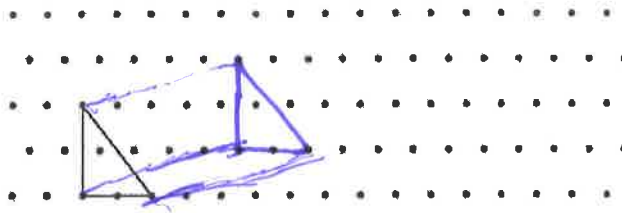


Geometry Chapter 4 Test

1. a. Translate the triangle in a diagonal direction to create a second triangle.



- b. Use dotted line segments to connect each pair of corresponding vertices in the triangles.
 c. What is the shape of each lateral face of the solid figure formed by this translation?
 d. What is the name of the solid formed by this translation?

Parallelograms

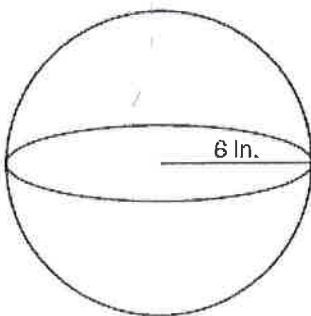
Triangular Prism

End of Chapter Test

2. Name the solid that is formed:

- translating a rectangle *Rectangular Prism*
- translating a circle *Cylinder*
- rotating a rectangle *Cylinder*
- rotating a triangle *Cone*
- rotating a circle *Sphere*
- stacking similar circles *Cone*
- stacking similar squares *Pyramid*

3. What is the volume of the sphere? Round your answer to the nearest whole number.



$$V = \frac{4}{3}\pi r^3$$

$$V = \frac{4}{3}\pi(6)^3$$

905 in^3

Standardized Test Practice

4. Which action could have been used to create the following object?



- a. stacking similar rectangles that are not congruent
 b. translating a rectangle
 c. translating a triangle
 d. rotating a rectangle

5. Which two actions could create the same solid?

- a. translating a triangle and rotating a rectangle
 b. translating a triangle and stacking similar squares
 c. stacking congruent circles and rotating a circle
 d. rotating a triangle and stacking similar circles

6. A triangle is rotated along its center to form a three-dimensional solid. Which dimension of the solid relates to the base of the triangle?

- a. the height of the solid
 b. the radius of the solid's base
 c. the diameter of the solid's base
 d. the slant height of the solid

7. A **square** pyramid has a height of 11 centimeters and the length of each side of the base is 6 centimeters. What is the volume of the pyramid?

- a. 132 cubic centimeters
 b. 2 cubic centimeters
 c. 1188 cubic centimeters
 d. 396 cubic centimeters

$$V = \frac{1}{3} b^2 h$$

$$V = \frac{1}{3} (36) (11)$$

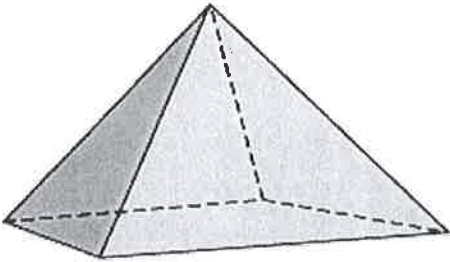
$$132 \text{ cm}^3$$

8. A cylinder has a radius of $4\frac{1}{2}$ inches and a height of $12\frac{3}{4}$ inches. What is the approximate volume of the cylinder?

- a. 810 cubic inches
 b. 360 cubic inches
 c. 108 cubic inches
 d. 209 cubic inches

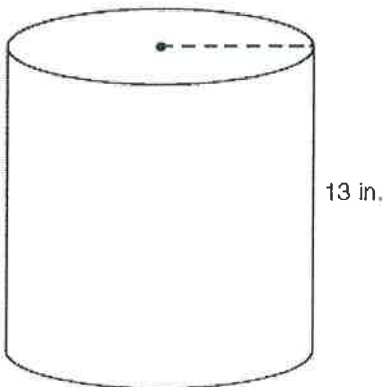
$$V = \pi(4.5)^2(12.75) \\ = 811.1 \approx 810 \text{ in}^3$$

9. What could have been used to create the following object?



- a. rotating a rectangle
 b. stacking similar squares
 c. translating a triangle
 d. translating a rectangle

10. The cylinder shown has a radius of 5 inches. What is the volume of the cylinder?



- a. 65π cubic inches
 b. 325π cubic inches
 c. 130π cubic inches
 d. 169π cubic inches

$$\pi(5)^2(13) = 1021.02$$

divide \rightarrow π
 by
 π
 $= 325\pi$

because

answers

are

multiples

of π

11. The volume of a cone is 218 cubic centimeters and the height of the cone is 13 centimeters. What is the radius of the cone to the nearest whole number?

- a. 16 centimeters
- b. 4 centimeters
- c. 5 centimeters
- d. 8 centimeters

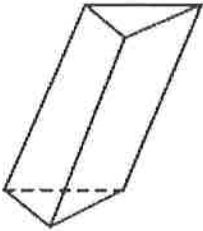
$$3(218) = 3\left(\frac{1}{3}\pi r^2(13)\right)$$

$$\frac{654}{13\pi} = \frac{\pi r^2 13}{13\pi}$$

$$\frac{654}{13\pi} \approx 16.01 = r^2$$

$$r = 4$$

12. Which term best describes the figure shown?



- a. triangular prism
- b. square pyramid
- c. triangular pyramid
- d. oblique triangular prism

13. A student translated an isosceles triangle horizontally in space to form a solid. Which shape are the lateral sides of the solid?

- a. rectangular prisms
- b. rectangles
- c. parallelograms
- d. triangular prisms

14. Which figure could be formed by rotating a circle in space?

- a. a cylinder
- b. a prism
- c. a cone
- d. a sphere

Pre-Test

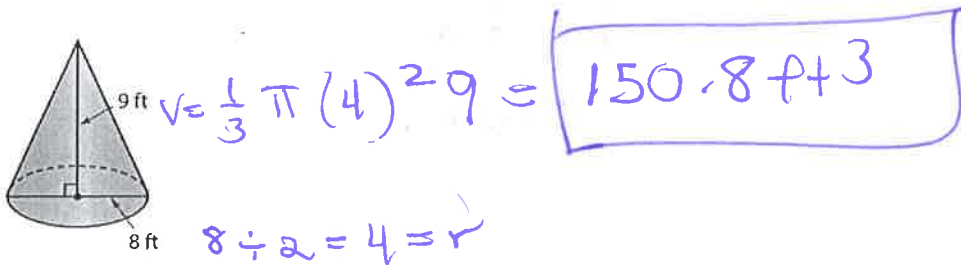
15. Suppose a student stacks 1000 congruent circles one on top of the other, and the teacher stacks 1000 similar circles, with each circle a little smaller than the one below it.

- a. What is the name of the solid formed by the stack of congruent circles? *Cylinder*
 - b. Relate the dimensions of one of the congruent circles to the dimensions of this solid. *Base of circle w/ base of cylinder + height is the stacks*
 - c. What is the name of the solid formed by the stack of similar circles?
 - d. Relate the height of the stack of similar circles to a dimension of this solid. *Cone base of circle w/ base of cone + height of stack with height of cone*
16. Decide if the object shown could have been created by translating, rotating, or stacking. Explain.

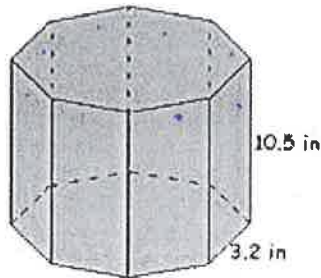


rotating a circle

17. Calculate the volume of the solid:



18. Calculate the volume of the solid if the apothem length is 2 inches.



$3.2 \times 8 = \text{Perimeter}$

$\frac{1}{2} (25.6) (2) \leftarrow \text{apothem} = 25.6 \text{ in}^2$

$\frac{1}{2} p a$

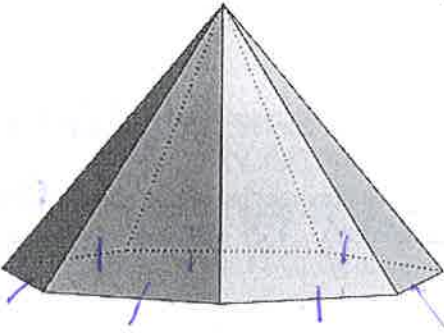
$V = 25.6 \times 10.5 = 268.8 \text{ in}^3$

Name: _____

ID: A

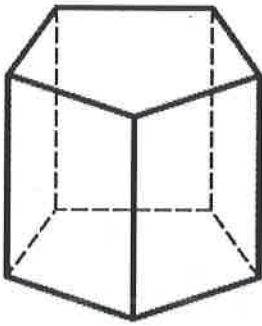
19. Write the exact name of each solid:

a.



Heptagonal
Pyramid

b.



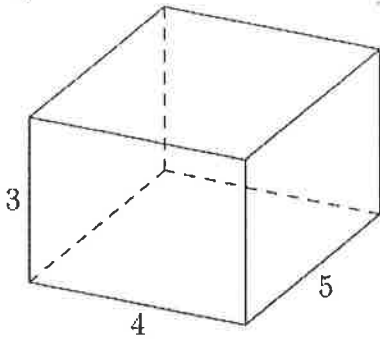
Pentagonal
Prism

c.



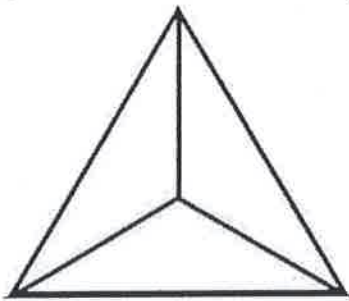
Cone

d.



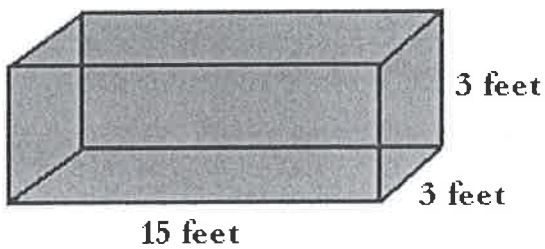
Rectangular Prism

e.



triangular Pyramid

20. Calculate the surface area of the solid:



$$2(15 \times 3) + 2(15 \times 3) + 2(3 \times 3)$$

(Handwritten labels above the terms: $l \times w$ above the first term, $l \times h$ above the second term, and $h \times w$ above the third term.)

$$= 90 + 90 + 18$$

$$SA = 198 \text{ ft}^2$$

