

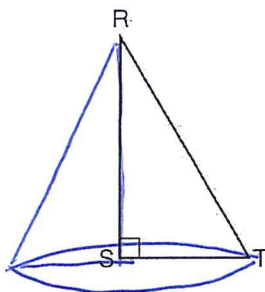
1) Reflect shape in 2 dimensions
2) Connect original and image with curves

Name Schlansky
Mr. Schlansky

Date _____
Geometry

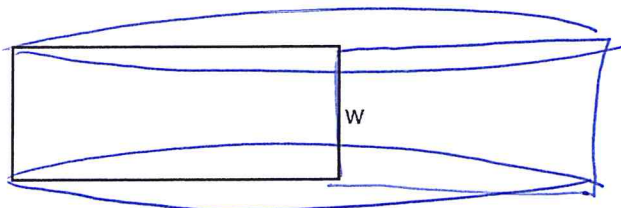
Three Dimensional Rotations

1. Which object is formed when right triangle RST shown below is rotated around leg \overline{RS} ?



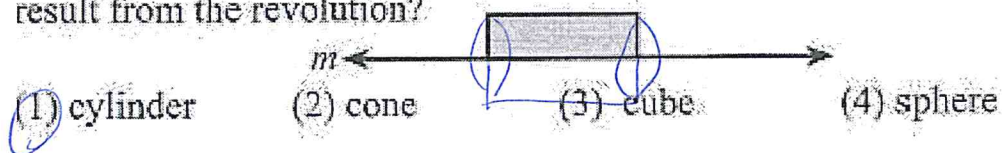
- 1) a pyramid with a square base
- 2) an isosceles triangle
- 3) a right triangle
- 4) a cone

2. If the rectangle below is continuously rotated about side w , which solid figure is formed?



- 1) pyramid
- 2) rectangular prism
- 3) cone
- 4) cylinder

3. If you rotated the shaded figure below about line m , which solid would result from the revolution?



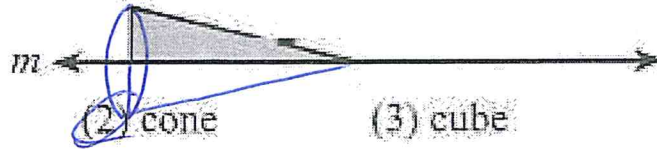
(1) cylinder

(2) cone

(3) cube

(4) sphere

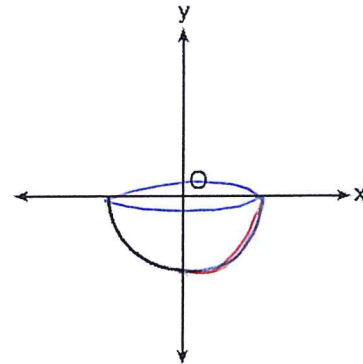
4. If you rotated the triangular region of the figure below about line m , what solid would result from the revolution?



- (1) cylinder (2) cone (3) cube (4) sphere

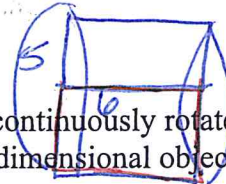
5. Circle O is centered at the origin. In the diagram below, a quarter of circle O is graphed. Which three-dimensional figure is generated when the quarter circle is continuously rotated about the y -axis?

- 1) cone
2) sphere
3) cylinder
4) hemisphere



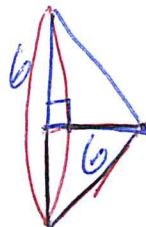
6. Which three-dimensional figure will result when a rectangle 6 inches long and 5 inches wide is continuously rotated about the longer side?

- 1) a rectangular prism with a length of 6 inches, width of 6 inches, and height of 5 inches
2) a rectangular prism with a length of 6 inches, width of 5 inches, and height of 5 inches
3) a cylinder with a radius of 5 inches and a height of 6 inches
4) a cylinder with a radius of 6 inches and a height of 5 inches



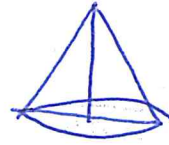
7. An isosceles right triangle whose legs measure 6 is continuously rotated about one of its legs to form a three-dimensional object. The three-dimensional object is a

- 1) cylinder with a diameter of 6
2) cylinder with a diameter of 12
3) cone with a diameter of 6
4) cone with a diameter of 12



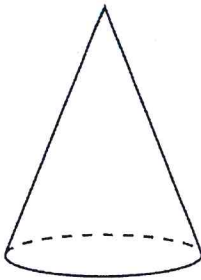
8. If an equilateral triangle is continuously rotated around one of its medians, which 3-dimensional object is generated?

- 1) cone
- 2) pyramid
- 3) prism
- 4) sphere

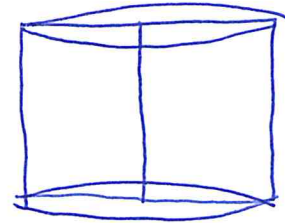
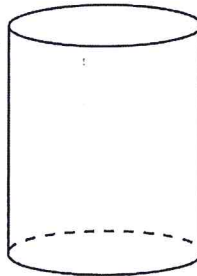


9. A student has a rectangular postcard that he folds in half lengthwise. Next, he rotates it continuously about the folded edge. Which three-dimensional object below is generated by this rotation?

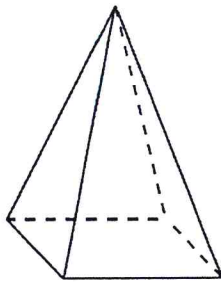
1)



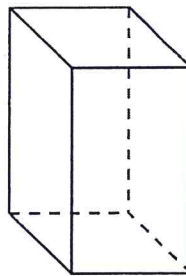
3)



2)



4)

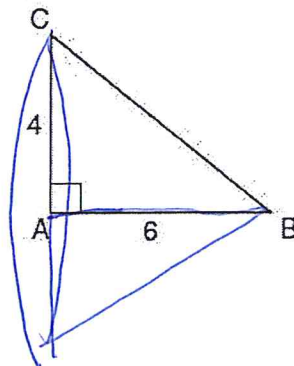


10. In the diagram below, right triangle ABC has legs whose lengths are 4 and 6. What is the volume of the three-dimensional object formed by continuously rotating the right triangle around \overline{AB} ?

- 1) 32π
- 2) 48π

- 3) 96π
- 4) 144π

don't type
 π in bc
 π is in
the answers



Volume of cone

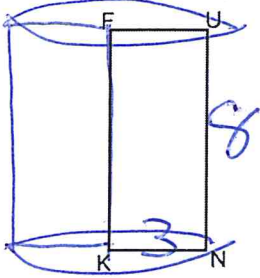
$$V = \frac{1}{3}\pi r^2 h$$

$$V = \frac{1}{3}\pi (4)^2 (6)$$

$$V = 32\pi$$

type π in

11. In the rectangle below, $\overline{UN} = 8 \text{ in}$ and $\overline{KN} = 3 \text{ in}$. Find the volume to the nearest tenth of a square inch of the three dimensional object created by rotating rectangle FUNK continuously about side \overline{FK}



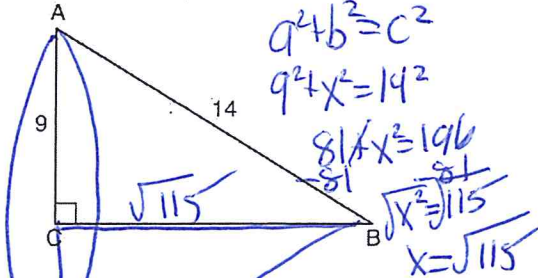
Volume of Cylinder

$$V = \pi r^2 h$$

$$V = \pi (3)^2 (8)$$

$$V = 226.2$$

12. In the diagram of right triangle ABC shown below, $AB = 14$ and $AC = 9$. What is the volume of the three dimensional object formed when the triangle is continuously rotated about side \overline{BC} to the nearest tenth.



$$a^2 + b^2 = c^2$$

$$9^2 + x^2 = 14^2$$

$$81 + x^2 = 196$$

$$x^2 = 115$$

$$x = \sqrt{115}$$

type π in

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

$$V = \frac{1}{3} \pi (9)^2 (\sqrt{115})$$

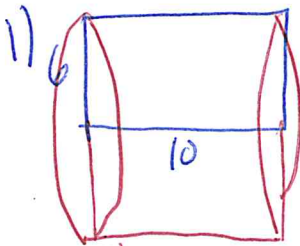
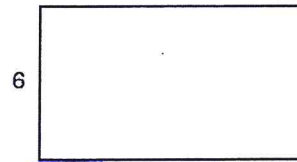
$$V = 909.6$$

13. A rectangle whose length and width are 10 and 6, respectively, is shown below. The rectangle is continuously rotated around a straight line to form an object whose volume is 150π .

go through each choice

Which line could the rectangle be rotated around?

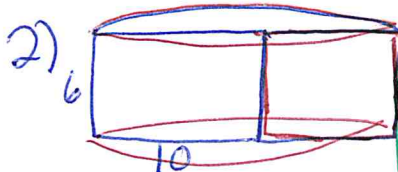
- 1) a long side
- 2) a short side
- 3) the vertical line of symmetry
- 4) the horizontal line of symmetry



$$V = \pi r^2 h$$

$$V = \pi (6)^2 (10)$$

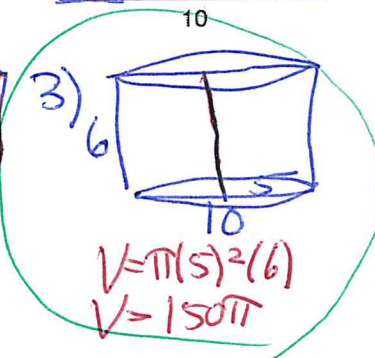
$$V = 360\pi$$



$$V = \pi r^2 h$$

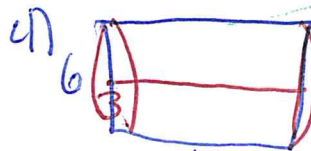
$$V = \pi (10)^2 (6)$$

$$V = 600\pi$$



$$V = \pi (5)^2 (6)$$

$$V = 150\pi$$



$$V = \pi (3)^2 (6)$$

$$V = 90\pi$$