

A quarter circle has the same area as a circle with a radius of 4. What is the radius of the quarter circle?



A small circle rolls around the edge of a larger circle exactly 11 times to return to its starting location. If the large circle has a diameter of 20, what is the radius of the smaller red circle?



The paper fan shown was cut from a circle whose area is 18π . What is the area of the fan?

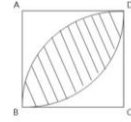
If a solid cylinder with a diameter of 2 cm and a height of 5 cm is dropped into a cup of water, by about how many cubic centimeters will the water level rise?

Is this statement true or false?

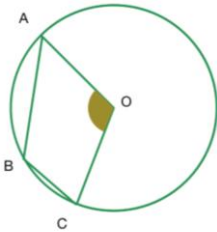
When an object's volume is doubled, its surface area must be doubled.

Doubling the dimensions of a three dimensional figure will increase its volume by a factor of:

Will all of the sand in a 10 cm cube-shaped box fit into a box measuring 4 cm by 5 cm by 20 cm?



The length of each side in the above square is 14. If the two curves in the square are each one quarter of a circle with radius 14, calculate the area of the region bounded by the two curves in the above diagram.



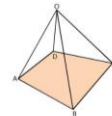
In the above image, $\angle ABC = 115^\circ$.
What is angle AOC (as marked) equal to?



A square is inscribed in a circle with diameter 2. Four smaller circles are then constructed with their diameters on each of the sides of the square. Find the shaded area.



The above partial yin yang symbol is created from a large semicircle with radius 14 by removing one semicircle with radius 7 on the left and adding one semicircle with radius 7 on the right. What is the circumference of the symbol?



The above diagram is a right pyramid with the following lengths:

$$\overline{AB} = \overline{BC} = \overline{CD} = \overline{AD} = 4,$$

$$\overline{OA} = \overline{OB} = \overline{OC} = \overline{OD} = 2\sqrt{6}.$$

What is the volume of this pyramid?