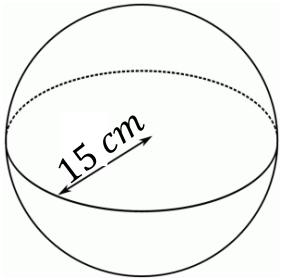
Timester Challenge

Volume & Surface Area of a Sphere

The formula for volume of a sphere is

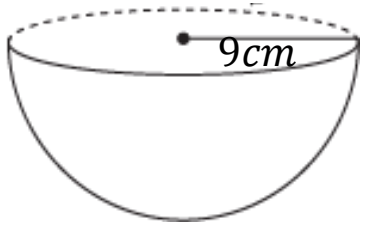
The formula for surface area of a sphere is

Calculate the volume of the sphere.



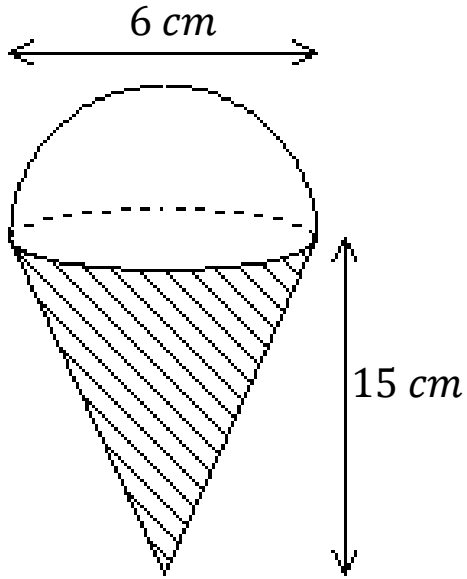
Bronze

Calculate the volume of the hemisphere.



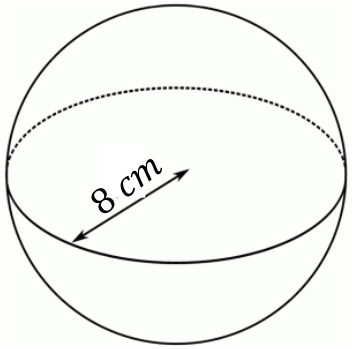
Silver

Calculate the external surface area of the ice cream cone.



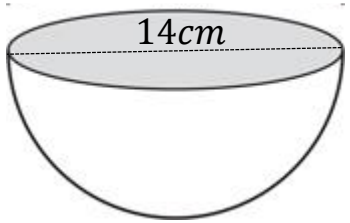
Gold

Calculate the surface area of the sphere.



Bronze

Calculate the surface area of the hemisphere



Silver

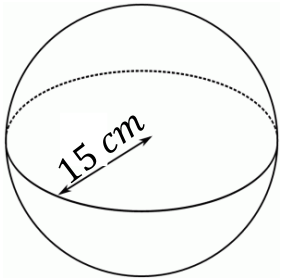
Timester Challenge

Volume & Surface Area of a Sphere

The formula for volume of a sphere is $V = \frac{4\pi r^3}{3}$

The formula for surface area of a sphere is $SA = 4\pi r^2$

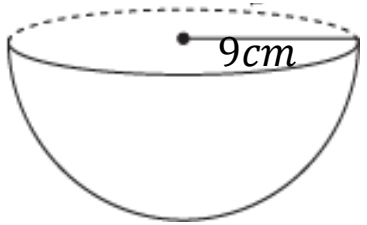
Calculate the volume of the sphere.



$$V = \frac{4\pi 15^3}{3}$$
$$= 14137.17\ cm^3 (2dp)$$

Bronze

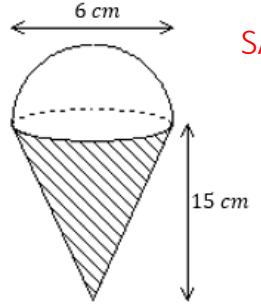
Calculate the volume of the hemisphere.



$$V = \left(\frac{4\pi 15^3}{3}\right) \div 2$$
$$= 1526.81\ cm^3 (2dp)$$

Silver

Calculate the external surface area of the ice cream cone.



SA ice cream $= \frac{4\pi 3^2}{2}$
$= 56.55\ cm^2 (2dp)$

$r = 3cm$

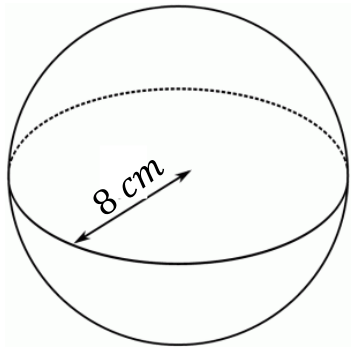
$L = \sqrt{15^2 + 3^2}$
$= 15.297\ cm\ (3dp)$

SA cone $= \pi r L$
$= \pi \times 3 \times 15.297$
$= 144.17\ cm^2 (2dp)$

SA $= 56.55 + 144.17$
$= 200.72\ cm^2 (2dp)$

Gold

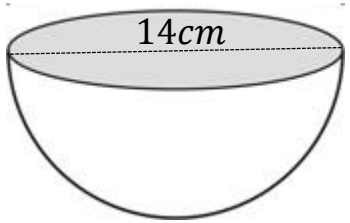
Calculate the surface area of the sphere.



SA $= 4\pi 8^2$
$= 804.25\ cm^2 (2dp)$

Bronze

Calculate the surface area of the hemisphere



SA curved face $= (4\pi 7^2) \div 2$
$= 98\pi$

SA circle $= \pi 7^2$
$= 49\pi$

SA $= 98\pi + 49\pi$
$= 147\pi$
$= 461.81 cm^2 (2dp)$

Silver