

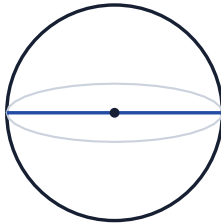
Surface Area and Volume of Spheres

Find both the total surface area and volume. $\sqrt{n}$ means the square root of n . Use calculator pi, retain intermediate precision, and round final answers to the nearest hundredth.

1. Sphere: Find the surface area and volume.

Given: diameter = 40 mm

Formula and work:



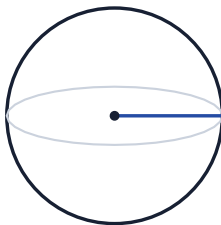
d

not to scale

2. Sphere: Find the surface area and volume.

Given: radius = 11 cm

Formula and work:



r

not to scale

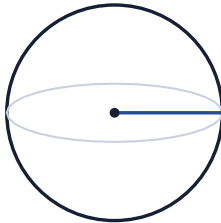
Surface Area and Volume of Spheres

Find both the total surface area and volume. $\sqrt{n}$ means the square root of n . Use calculator pi, retain intermediate precision, and round final answers to the nearest hundredth.

3. Sphere: Find the surface area and volume.

Given: radius = 17 in

Formula and work:



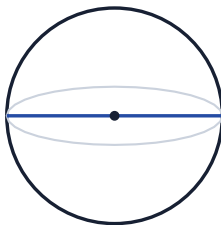
r

not to scale

4. Sphere: Find the surface area and volume.

Given: diameter = 56 yd

Formula and work:



d

not to scale

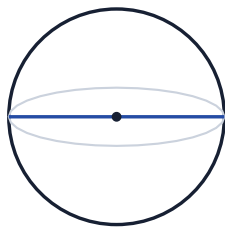
Surface Area and Volume of Spheres

Find both the total surface area and volume. sqrt(n) means the square root of n. Use calculator pi, retain intermediate precision, and round final answers to the nearest hundredth.

5. Sphere: Find the surface area and volume.

Given: diameter = 50 ft

Formula and work:



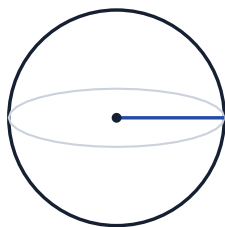
d

not to scale

6. Sphere: Find the surface area and volume.

Given: radius = 8 yd

Formula and work:



r

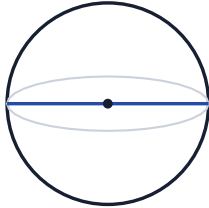
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Surface Area and Volume of Spheres

Worked Answer Key

Find both the total surface area and volume. $\sqrt{n}$ means the square root of n . Use calculator pi, retain intermediate precision, and round final answers to the nearest hundredth.

1. Sphere: Find the surface area and volume.



d

not to scale

Given: diameter = 40 mm

Total surface area: $SA = 4\pi r^2$

Substitute: $r=40/2$; $SA=4\pi(40/2)^2$

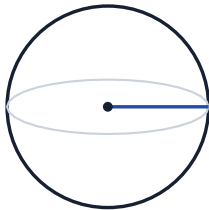
Answer: 5026.55 mm²

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

Substitute: $r=40/2$; $V=\frac{4\pi(40/2)^3}{3}$

Answer: 33510.32 mm³

2. Sphere: Find the surface area and volume.



r

not to scale

Given: radius = 11 cm

Total surface area: $SA = 4\pi r^2$

Substitute: $r=11$; $SA=4\pi(11)^2$

Answer: 1520.53 cm²

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

Substitute: $r=11$; $V=\frac{4\pi(11)^3}{3}$

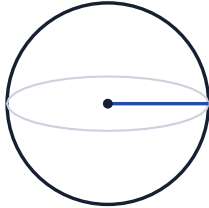
Answer: 5575.28 cm³

Surface Area and Volume of Spheres

Worked Answer Key

Find both the total surface area and volume. $\sqrt{n}$ means the square root of n . Use calculator pi, retain intermediate precision, and round final answers to the nearest hundredth.

3. Sphere: Find the surface area and volume.



r

not to scale

Given: radius = 17 in

Total surface area: $SA = 4\pi r^2$

Substitute: $r=17$; $SA=4\pi(17)^2$

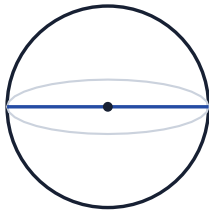
Answer: 3631.68 in²

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

Substitute: $r=17$; $V=\frac{4\pi(17)^3}{3}$

Answer: 20579.53 in³

4. Sphere: Find the surface area and volume.



d

not to scale

Given: diameter = 56 yd

Total surface area: $SA = 4\pi r^2$

Substitute: $r=56/2$; $SA=4\pi(56/2)^2$

Answer: 9852.03 yd²

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

Substitute: $r=56/2$; $V=\frac{4\pi(56/2)^3}{3}$

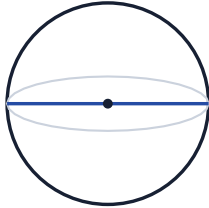
Answer: 91952.32 yd³

Surface Area and Volume of Spheres

Worked Answer Key

Find both the total surface area and volume. $\sqrt{n}$ means the square root of n . Use calculator pi, retain intermediate precision, and round final answers to the nearest hundredth.

5. Sphere: Find the surface area and volume.



d

not to scale

Given: diameter = 50 ft

Total surface area: $SA = 4\pi r^2$

Substitute: $r=50/2$; $SA=4\pi(50/2)^2$

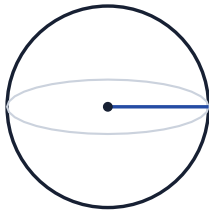
Answer: 7853.98 ft²

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

Substitute: $r=50/2$; $V=\frac{4}{3}\pi(50/2)^3$

Answer: 65449.85 ft³

6. Sphere: Find the surface area and volume.



r

not to scale

Given: radius = 8 yd

Total surface area: $SA = 4\pi r^2$

Substitute: $r=8$; $SA=4\pi(8)^2$

Answer: 804.25 yd²

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

Substitute: $r=8$; $V=\frac{4}{3}\pi(8)^3$

Answer: 2144.66 yd³