



Sphere Formulas

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Examples!

Conversions!

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List of 30 Sphere Formulas

Sphere 🛂

Circumference of Sphere

1) Circumference of Sphere

fx
$$C=2\cdot\pi\cdot r$$

ex
$$62.83185 \text{m} = 2 \cdot \pi \cdot 10 \text{m}$$

2) Circumference of Sphere given Diameter 🗗



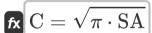
fx
$$C = \pi \cdot D$$

Open Calculator

Open Calculator

$$\texttt{ex} \ 62.83185 \mathrm{m} = \pi \cdot 20 \mathrm{m}$$

3) Circumference of Sphere given Surface Area

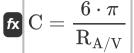


Open Calculator G

$$\mathbf{ex} \ 63.90673 \mathrm{m} = \sqrt{\pi \cdot 1300 \mathrm{m}^2}$$



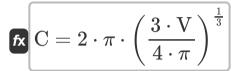
4) Circumference of Sphere given Surface to Volume Ratio



Open Calculator

 $extbf{ex} 62.83185 ext{m} = rac{6 \cdot \pi}{0.3 ext{m}^{-1}}$

5) Circumference of Sphere given Volume

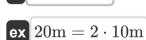


Open Calculator

 $\texttt{ex} \left[62.88785 \mathrm{m} = 2 \cdot \pi \cdot \left(\frac{3 \cdot 4200 \mathrm{m}^{\scriptscriptstyle 3}}{4 \cdot \pi} \right)^{\frac{1}{3}} \right]$

Diameter of Sphere C

6) Diameter of Sphere

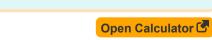


fx $D=2\cdot r$

Open Calculator

7) Diameter of Sphere given Circumference

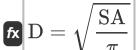
$$D = \frac{C}{C}$$



 $19.09859 \mathrm{m} = \frac{60 \mathrm{m}}{\pi}$



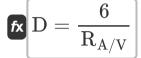
8) Diameter of Sphere given Surface Area



Open Calculator

$$=$$
 $20.34214 \mathrm{m} = \sqrt{rac{1300 \mathrm{m}^2}{\pi}}$

9) Diameter of Sphere given Surface to Volume Ratio



Open Calculator

$$20 \mathrm{m} = rac{6}{0.3 \mathrm{m}^{-1}}$$

10) Diameter of Sphere given Volume

$$D = 2 \cdot \left(rac{3 \cdot V}{4 \cdot \pi}
ight)^{rac{1}{3}}$$

$$ext{ex} \ 20.01783 ext{m} = 2 \cdot \left(rac{3 \cdot 4200 ext{m}^3}{4 \cdot \pi}
ight)^{rac{1}{3}}$$



Radius of Sphere C

11) Radius of Sphere given Circumference

fx
$$\mathbf{r} = rac{\mathrm{C}}{2 \cdot \pi}$$

Open Calculator

$$= 2.549297 \text{m} = \frac{60 \text{m}}{2 \cdot \pi}$$

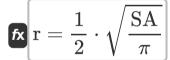
12) Radius of Sphere given Diameter

$$\mathbf{fx} = \frac{\mathrm{D}}{2}$$

Open Calculator

$$\boxed{10\text{m} = \frac{20\text{m}}{2}}$$

13) Radius of Sphere given Surface Area

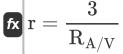


Open Calculator

$$\mathbf{ex} \ 10.17107 \mathrm{m} = rac{1}{2} \cdot \sqrt{rac{1300 \mathrm{m}^2}{\pi}}$$



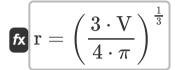
14) Radius of Sphere given Surface to Volume Ratio



Open Calculator

$$10 \mathrm{m} = rac{3}{0.3 \mathrm{m}^{-1}}$$

15) Radius of Sphere given Volume



Open Calculator 🖸

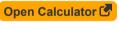
ex
$$10.00891 \mathrm{m} = \left(rac{3 \cdot 4200 \mathrm{m}^3}{4 \cdot \pi}
ight)^{rac{1}{3}}$$

Surface Area of Sphere 🗗

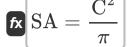
16) Surface Area of Sphere

fx
$$\mathrm{SA} = 4 \cdot \pi \cdot \mathrm{r}^2$$

$$= 1256.637 \mathrm{m}^{\scriptscriptstyle 2} = 4 \cdot \pi \cdot \left(10\mathrm{m}\right)^{\scriptscriptstyle 2}$$



17) Surface Area of Sphere given Circumference 💪



Open Calculator

 $ext{ex} 1145.916 ext{m}^2 = rac{(60 ext{m})^2}{\pi}$

18) Surface Area of Sphere given Diameter

 $\left| ext{SA} = 4 \cdot \pi \cdot \left(rac{ ext{D}}{2}
ight)^2
ight|$

Open Calculator

 $ag{256.637} ext{m}^2 = 4 \cdot \pi \cdot \left(rac{20 ext{m}}{2}
ight)^2$

19) Surface Area of Sphere given Surface to Volume Ratio

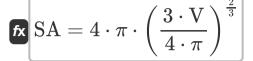
extstyle ext

Open Calculator

 $extbf{ex} 1256.637 ext{m}^2 = 36 \cdot rac{\pi}{\left(0.3 ext{m}^{-1}
ight)^2}$



20) Surface Area of Sphere given Volume



Open Calculator 🖸

$$oxed{ex} 1258.878 \mathrm{m}^{\scriptscriptstyle 2} = 4 \cdot \pi \cdot \left(rac{3 \cdot 4200 \mathrm{m}^{\scriptscriptstyle 3}}{4 \cdot \pi}
ight)^{rac{2}{3}}$$

Surface to Volume ratio of Sphere

21) Surface to Volume Ratio of Sphere



Open Calculator 🗗

$$0.3 \mathrm{m}^{-1} = rac{3}{10 \mathrm{m}}$$



$$m R_{A/V} = rac{6 \cdot \pi}{C}$$

$$oxed{ex} 0.314159 \mathrm{m}^{-_1} = rac{6 \cdot \pi}{60 \mathrm{m}}$$

23) Surface to Volume Ratio of Sphere given Diameter

 $m R_{A/V} = rac{6}{D}$

Open Calculator 🗗

 $0.3 {
m m}^{-1} = rac{6}{20 {
m m}}$

24) Surface to Volume Ratio of Sphere given Surface Area

 $m R_{A/V} = 3 \cdot \sqrt{rac{4 \cdot \pi}{SA}}$

Open Calculator

ex $0.294954 \mathrm{m}^{\scriptscriptstyle{-1}} = 3 \cdot \sqrt{\frac{4 \cdot \pi}{1300 \mathrm{m}^2}}$

25) Surface to Volume Ratio of Sphere given Volume

 $m R_{A/V} = rac{3}{\left(rac{3\cdot V}{4\cdot \pi}
ight)^{rac{1}{3}}}$

Open Calculator

ex $0.299733 \mathrm{m}^{\scriptscriptstyle{-1}} = rac{3}{\left(rac{3\cdot4200 \mathrm{m}^{\scriptscriptstyle{3}}}{4\cdot\pi}
ight)^{rac{1}{3}}}$



Volume of Sphere 🗗

26) Volume of Sphere

$$V = rac{4}{3} \cdot \pi \cdot r^3$$

Open Calculator 🖒

ex
$$4188.79 \mathrm{m}^3 = \frac{4}{3} \cdot \pi \cdot (10 \mathrm{m})^3$$

27) Volume of Sphere given Circumference

$$extbf{K} V = rac{4 \cdot \pi}{3} \cdot \left(rac{ ext{C}}{2 \cdot \pi}
ight)^3$$

Open Calculator

$$= \frac{3647.563 \text{m}^3}{3} \cdot \left(\frac{60 \text{m}}{2 \cdot \pi}\right)^3$$

28) Volume of Sphere given Diameter

$$extbf{V} = rac{4}{3} \cdot \pi \cdot \left(rac{ ext{D}}{2}
ight)^3$$

$$oxed{ex} 4188.79 \mathrm{m}^{\scriptscriptstyle 3} = rac{4}{3} \cdot \pi \cdot \left(rac{20 \mathrm{m}}{2}
ight)^{3}$$



29) Volume of Sphere given Surface Area 🗗



$$V = rac{4}{3} \cdot \pi \cdot \left(rac{\mathrm{SA}}{4 \cdot \pi}
ight)^{rac{3}{2}}$$

Open Calculator

$$=$$
 $4407.465 \mathrm{m}^{_3} = rac{4}{3} \cdot \pi \cdot \left(rac{1300 \mathrm{m}^{_2}}{4 \cdot \pi}
ight)^{rac{3}{2}}$

30) Volume of Sphere given Surface to Volume Ratio 🗗



$$V = rac{4}{3} \cdot \pi \cdot \left(rac{3}{
m R_{A/V}}
ight)^3$$



 $oxed{ex} \left| 4188.79 \mathrm{m}^{_{3}} = rac{4}{3} \cdot \pi \cdot \left(rac{3}{0.3 \mathrm{m}^{_{-1}}}
ight)^{3}
ight|$



Variables Used

- **C** Circumference of Sphere (*Meter*)
- **D** Diameter of Sphere (Meter)
- r Radius of Sphere (Meter)
- R_{A/V} Surface to Volume Ratio of Sphere (1 per Meter)
- SA Surface Area of Sphere (Square Meter)
- **V** Volume of Sphere (Cubic Meter)





Constants, Functions, Measurements used

- Constant: pi, 3.14159265358979323846264338327950288
 Archimedes' constant
- Function: sqrt, sqrt(Number) Square root function
- Measurement: Length in Meter (m)
 Length Unit Conversion
- Measurement: Volume in Cubic Meter (m³)

 Volume Unit Conversion
- Measurement: Area in Square Meter (m²)

 Area Unit Conversion
- Measurement: Reciprocal Length in 1 per Meter (m⁻¹)

 Reciprocal Length Unit Conversion





Check other formula lists

- Anticube Formulas
- Antiprism Formulas
- Barrel Formulas
- Bent Cuboid Formulas
- Bicone Formulas
- Capsule Formulas
- Circular Hyperboloid Formulas
- Cuboctahedron Formulas
- Cut Cylinder Formulas
- Cut Cylindrical Shell Formulas
- Cylinder Formulas
- Cylindrical Shell Formulas
- Diagonally Halved Cylinder Formulas
- Disphenoid Formulas
- Double Calotte Formulas
- Double Point Formulas
- 🔹 Ellipsoid Formulas 💪
- Elliptic Cylinder Formulas
- Elongated Dodecahedron
 Formulas
- Flat End Cylinder Formulas
- Frustum of Cone Formulas
- Great Dodecahedron Formulas .
- Great Icosahedron Formulas
- Great Stellated Dodecahedron
 Formulas

- Half Cylinder Formulas
- Half Spherical Shell Formulas
- Half Tetrahedron Formulas
- Hemisphere Formulas 🗗
- Hollow Cuboid Formulas
- Hollow Cylinder Formulas
- Hollow Frustum Formulas
- Hollow Pyramid Formulas
- Hollow Sphere Formulas
- Ingot Formulas
- Obelisk Formulas
- Oblique Cylinder Formulas
- Oblique Prism Formulas
- Obtuse Edged Cuboid Formulas
- Oloid Formulas
- Paraboloid Formulas
- Parallelepiped Formulas
- Prismatoid Formulas
- Ramp Formulas
- Regular Bipyramid Formulas
- Rhombohedron Formulas
- Right Wedge Formulas
 - 🔻 Semi Ellipsoid Formulas 💪
- 🔹 Sharp Bent Cylinder Formulas 🖸
- Small Stellated Dodecahedron Formulas



Sphere Formulas... 15/15

- Solid of Revolution Formulas
- Sphere Formulas
- Spherical Cap Formulas
- Spherical Corner Formulas
- Spherical Ring Formulas
- Spherical Sector Formulas
- Spherical Segment Formulas
- Spherical Wedge Formulas

- Spherical Zone Formulas
- Square Pillar Formulas
- Stellated Octahedron Formulas
- Trirectangular Tetrahedron
 Formulas
- Truncated Rhombohedron
 Formulas

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