



# Important Formulas of Hemisphere

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# **List of 18 Important Formulas of Hemisphere**

# Important Formulas of Hemisphere 🗗

# Circumference of Hemisphere

1) Circumference of Hemisphere

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

Open Calculator

2) Circumference of Hemisphere given Curved Surface Area

fx 
$$C = \sqrt{2 \cdot \pi \cdot CSA}$$

Open Calculator 🗗

$$\texttt{ex} \ 31.70662 \texttt{m} = \sqrt{2 \cdot \pi \cdot 160 \texttt{m}^2}$$

3) Circumference of Hemisphere given Volume

$$\left| \mathbf{C} = 2 \cdot \pi \cdot \left( rac{3 \cdot \mathrm{V}}{2 \cdot \pi} 
ight)^{rac{1}{3}} 
ight|$$

Open Calculator 🖸

$$oxed{31.34379 \mathrm{m}} = 2 \cdot \pi \cdot \left(rac{3 \cdot 260 \mathrm{m}^{_3}}{2 \cdot \pi}
ight)^{rac{1}{3}}$$



#### Radius and Diameter of Hemisphere

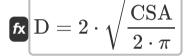
4) Diameter of Hemisphere given Circumference

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

Open Calculator

$$9.549297 m = \frac{30 m}{\pi}$$

5) Diameter of Hemisphere given Curved Surface Area



Open Calculator

ex 
$$10.09253\mathrm{m} = 2\cdot\sqrt{rac{160\mathrm{m}^2}{2\cdot\pi}}$$

6) Diameter of Hemisphere given Volume

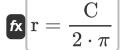
$$\left| \mathbf{f} \mathbf{x} 
ight| \mathrm{D} = 2 \cdot \left( rac{3 \cdot \mathrm{V}}{2 \cdot \pi} 
ight)^{rac{1}{3}}$$

Open Calculator

$$= 2 \cdot \left(\frac{3 \cdot 260 \mathrm{m}^{_3}}{2 \cdot \pi}\right)^{\frac{1}{3}}$$



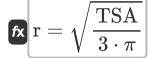
# 7) Radius of Hemisphere given Circumference



Open Calculator

$$\mathbf{ex} \ 4.774648 \mathbf{m} = rac{30 \mathbf{m}}{2 \cdot \pi}$$

#### 8) Radius of Hemisphere given Total Surface Area



Open Calculator

ex 
$$4.993423 \mathrm{m} = \sqrt{rac{235 \mathrm{m}^2}{3 \cdot \pi}}$$

# 9) Radius of Hemisphere given Volume

$$\mathbf{f}$$
  $\mathbf{r} = \left(rac{3\cdot \mathrm{V}}{2\cdot \pi}
ight)^{rac{1}{3}}$ 

ex 
$$4.988518 \mathrm{m} = \left( \frac{3 \cdot 260 \mathrm{m}^3}{2 \cdot \pi} \right)^{\frac{1}{3}}$$



#### Surface Area of Hemisphere 🗗

# 10) Curved Surface Area of Hemisphere

$$CSA = 2 \cdot \pi \cdot r^2$$

Open Calculator 🚰

Open Calculator

ex  $157.0796 ext{m}^2 = 2 \cdot \pi \cdot (5 ext{m})^2$ 

## 11) Curved Surface Area of Hemisphere given Total Surface Area

 $\operatorname{CSA} = \frac{2}{3} \cdot \operatorname{TSA}$ 

 $\frac{3}{156.6667 \mathrm{m}^2 = \frac{2}{2} \cdot 235 \mathrm{m}^2}$ 

#### 12) Curved Surface Area of Hemisphere given Volume

 $ag{CSA} = 2 \cdot \pi \cdot \left(rac{3 \cdot ext{V}}{2 \cdot \pi}
ight)^{rac{2}{3}}$ 

Open Calculator 🚰

 $extbf{ex} 156.3591 ext{m}^2 = 2 \cdot \pi \cdot \left(rac{3 \cdot 260 ext{m}^3}{2 \cdot \pi}
ight)^{rac{2}{3}}$ 

#### 13) Total Surface Area of Hemisphere



Open Calculator

 $\mathbf{ex} \ 235.6194 \mathrm{m}^{_2} = 3 \cdot \pi \cdot (5 \mathrm{m})^2$ 







#### 14) Total Surface Area of Hemisphere given Curved Surface Area

3 25

Open Calculator 🚰

extstyle ext

 $extbf{ex}$   $240 ext{m}^2=rac{3}{2}\cdot 160 ext{m}^2$ 

# 15) Total Surface Area of Hemisphere given Volume

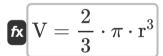
 $ag{TSA} = 3 \cdot \pi \cdot \left(rac{3 \cdot V}{2 \cdot \pi}
ight)^{rac{2}{3}}$ 

Open Calculator

 $\mathbf{ex}$   $234.5386\mathrm{m}^{\scriptscriptstyle 2}=3\cdot\pi\cdot\left(rac{3\cdot260\mathrm{m}^{\scriptscriptstyle 3}}{2\cdot\pi}
ight)^{rac{2}{3}}$ 

# Volume of Hemisphere 🗗

## 16) Volume of Hemisphere

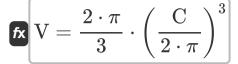


Open Calculator

 $\mathbf{ex} \left[ 261.7994 \mathrm{m}^{_{3}} = \frac{2}{3} \cdot \pi \cdot (5 \mathrm{m})^{_{3}} \right]$ 



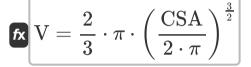
#### 17) Volume of Hemisphere given Circumference 🛂



Open Calculator

$$= 227.9727 \mathrm{m}^{_3} = \frac{2 \cdot \pi}{3} \cdot \left(\frac{30 \mathrm{m}}{2 \cdot \pi}\right)^3$$

## 18) Volume of Hemisphere given Curved Surface Area



Open Calculator

$$\mathbf{ex}$$
  $269.1341 \mathrm{m}^{\scriptscriptstyle 3} = rac{2}{3} \cdot \pi \cdot \left(rac{160 \mathrm{m}^{\scriptscriptstyle 2}}{2 \cdot \pi}
ight)^{rac{3}{2}}$ 

#### Variables Used

- **C** Circumference of Hemisphere (*Meter*)
- **CSA** Curved Surface Area of Hemisphere (Square Meter)
- **D** Diameter of Hemisphere (*Meter*)
- r Radius of Hemisphere (Meter)
- **TSA** Total Surface Area of Hemisphere (Square Meter)
- **V** Volume of Hemisphere (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





#### **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



- 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
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