



Important Formulas of Cylinder

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List of 29 Important Formulas of Cylinder

Important Formulas of Cylinder

Diagonal of Cylinder

1) Diagonal of Cylinder

$$\mathrm{d} = \sqrt{\mathrm{h}^2 + \left(2\cdot\mathrm{r}
ight)^2}$$

Open Calculator

$$extbf{ex} \left[15.6205 ext{m}^2 = \sqrt{\left(12 ext{m}
ight)^2 + \left(2 \cdot 5 ext{m}
ight)^2}
ight]$$

2) Diagonal of Cylinder given Lateral Surface Area and Height

$$\mathrm{d} = \sqrt{\mathrm{h}^2 + \left(rac{\mathrm{LSA}}{\pi \cdot \mathrm{h}}
ight)^2}$$

Open Calculator 🗗

$$ext{ex} 15.67171 ext{m}^2 = \sqrt{\left(12 ext{m}
ight)^2 + \left(rac{380 ext{m}^2}{\pi \cdot (12 ext{m})}
ight)^2}$$



3) Diagonal of Cylinder given Total Surface Area and Radius



$$\mathrm{d} = \sqrt{\left(rac{\mathrm{TSA}}{2\cdot\pi\cdot\mathrm{r}} - \mathrm{r}
ight)^2 + (2\cdot\mathrm{r})^2}$$

Open Calculator

$$extbf{ex} 15.52118 ext{m}^2 = \sqrt{\left(rac{530 ext{m}^2}{2 \cdot \pi \cdot 5 ext{m}} - 5 ext{m}
ight)^2 + \left(2 \cdot 5 ext{m}
ight)^2}$$

4) Diagonal of Cylinder given Volume and Height



$$\mathrm{d} = \sqrt{\mathrm{h}^2 + rac{4\cdot\mathrm{V}}{\pi\cdot\mathrm{h}}}$$

$$extbf{ex} 15.61208 ext{m}^2 = \sqrt{\left(12 ext{m}
ight)^2 + rac{4 \cdot 940 ext{m}^3}{\pi \cdot (12 ext{m})}}$$

Height of Cylinder 🗗

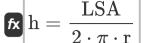
5) Height of Cylinder given Diagonal

$$h=\sqrt{\mathrm{d}^2-\left(2\cdot\mathrm{r}
ight)^2}$$

$$ext{ex} 12.49 ext{m} = \sqrt{\left(16 ext{m}^2
ight)^2 - \left(2 \cdot 5 ext{m}
ight)^2}$$



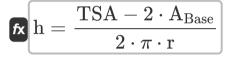
6) Height of Cylinder given Lateral Surface Area



Open Calculator

ex $12.09578 \mathrm{m} = rac{380 \mathrm{m}^2}{2 \cdot \pi \cdot 5 \mathrm{m}}$

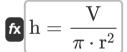
7) Height of Cylinder given Total Surface Area and Base Area



Open Calculator

ex $11.77747 \mathrm{m} = rac{530 \mathrm{m}^2 - 2 \cdot 80 \mathrm{m}^2}{2 \cdot \pi \cdot 5 \mathrm{m}}$

8) Height of Cylinder given Volume



Open Calculator

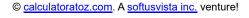
ex $11.96845 \text{m} = \frac{940 \text{m}^3}{\pi \cdot (5 \text{m})^2}$

Perimeter of Cylinder 2

fx
$$P=2\cdot(2\cdot\pi\cdot\mathrm{r}+\mathrm{h})$$

ex $86.83185 \mathrm{m} = 2 \cdot (2 \cdot \pi \cdot 5 \mathrm{m} + 12 \mathrm{m})$







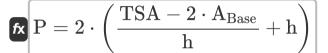
10) Perimeter of Cylinder given Lateral Surface Area and Height

 $ext{P} = 2 \cdot \left(rac{ ext{LSA}}{ ext{h}} + ext{h}
ight)$

Open Calculator 🚰

 $ext{ex} 87.33333 ext{m} = 2 \cdot \left(rac{380 ext{m}^2}{12 ext{m}} + 12 ext{m}
ight)$

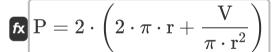
11) Perimeter of Cylinder given Total Surface Area and Height



Open Calculator 🗗

 $oxed{85.66667 ext{m} = 2 \cdot \left(rac{530 ext{m}^2 - 2 \cdot 80 ext{m}^2}{12 ext{m}} + 12 ext{m}
ight)}$

12) Perimeter of Cylinder given Volume and Radius



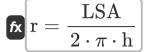
Open Calculator

 $oxed{ex} 86.76876 \mathrm{m} = 2 \cdot \left(2 \cdot \pi \cdot (5 \mathrm{m}) + rac{940 \mathrm{m}^3}{\pi \cdot (5 \mathrm{m})^2}
ight)$



Radius of Cylinder 2

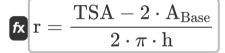
13) Radius of Cylinder given Lateral Surface Area



Open Calculator

$$\mathbf{ex} = 5.039907 \mathrm{m} = rac{380 \mathrm{m}^2}{2 \cdot \pi \cdot 12 \mathrm{m}}$$

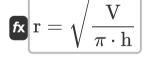
14) Radius of Cylinder given Total Surface Area and Base Area



Open Calculator

ex
$$4.907277 \mathrm{m} = rac{530 \mathrm{m}^2 - 2 \cdot 80 \mathrm{m}^2}{2 \cdot \pi \cdot 12 \mathrm{m}}$$

15) Radius of Cylinder given Volume



Open Calculator

ex
$$4.993423 \mathrm{m} = \sqrt{rac{940 \mathrm{m}^3}{\pi \cdot 12 \mathrm{m}}}$$



Surface Area of Cylinder

16) Base Area of Cylinder

fx $m A_{Base} = \pi \cdot r^2$

Open Calculator

ex $78.53982 ext{m}^2 = \pi \cdot (5 ext{m})^2$

17) Lateral Surface Area of Cylinder

fx $LSA = 2 \cdot \pi \cdot r \cdot h$

Open Calculator

ex $376.9911 ext{m}^2=2\cdot\pi\cdot5 ext{m}\cdot12 ext{m}$

18) Lateral Surface Area of Cylinder given Diagonal and Radius

 $ext{LSA} = 2 \cdot \pi \cdot ext{r} \cdot \sqrt{ ext{d}^2 - \left(2 \cdot ext{r}
ight)^2}$

extstyle ext

Open Calculator 🗗

19) Lateral Surface Area of Cylinder given Total Surface Area and Base Area

 $ag{LSA} = ext{TSA} - (2 \cdot ext{A}_{ ext{Base}})$

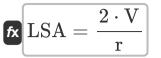
Open Calculator

 $ext{ex} \ 370 ext{m}^2 = 530 ext{m}^2 - (2 \cdot 80 ext{m}^2)$

 \mathbb{Z}_{Λ}



20) Lateral Surface Area of Cylinder given Volume and Radius



Open Calculator

= $376 \mathrm{m}^2 = rac{2 \cdot 940 \mathrm{m}^3}{5 \mathrm{m}}$

21) Total Surface Area of Cylinder

 $ag{TSA} = 2 \cdot \pi \cdot ext{r} \cdot (ext{h} + ext{r})$

Open Calculator

 $\mathbf{ex} \left[534.0708 \mathrm{m}^2 = 2 \cdot \pi \cdot 5 \mathrm{m} \cdot (12 \mathrm{m} + 5 \mathrm{m}) \right]$

22) Total Surface Area of Cylinder given Diagonal and Height

 $ext{TSA} = \pi \cdot \sqrt{ ext{d}^2 - ext{h}^2} \cdot \left(ext{h} + rac{\sqrt{ ext{d}^2 - ext{h}^2}}{2}
ight)$

Open Calculator 🚰

ex

$$574.8991 ext{m}^2 = \pi \cdot \sqrt{\left(16 ext{m}^2
ight)^2 - \left(12 ext{m}
ight)^2} \cdot \left(\left(12 ext{m}
ight) + rac{\sqrt{\left(16 ext{m}^2
ight)^2 - \left(12 ext{m}
ight)^2}}{2}
ight)$$

23) Total Surface Area of Cylinder given Lateral Surface Area and Base Area

 $ag{TSA} = ext{LSA} + (2 \cdot ext{A}_{ ext{Base}})$

Open Calculator

 $ext{ex} [540 ext{m}^2 = 380 ext{m}^2 + (2 \cdot 80 ext{m}^2)]$







24) Total Surface Area of Cylinder given Volume and Radius

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

Open Calculator

 $oxed{ex} 533.0796 \mathrm{m}^2 = 2 \cdot \pi \cdot (5\mathrm{m}) \cdot \left(rac{940 \mathrm{m}^3}{\pi \cdot (5\mathrm{m})^2} + (5\mathrm{m})
ight)$

Volume of Cylinder

25) Volume of Cylinder

fx $V = \pi \cdot r^2 \cdot h$

Open Calculator

26) Volume of Cylinder given Base Area

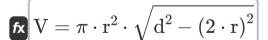
 $942.4778 ext{m}^{_3} = \pi \cdot (5 ext{m})^2 \cdot 12 ext{m}$

Open Calculator

 $960 \text{m}^3 = 80 \text{m}^2 \cdot 12 \text{m}^3$

fx $V = A_{Base} \cdot h$

27) Volume of Cylinder given Diagonal and Radius



Open Calculator

 $ext{ex} 980.962 ext{m}^{_3} = \pi \cdot (5 ext{m})^2 \cdot \sqrt{\left(16 ext{m}^2
ight)^2 - \left(2 \cdot (5 ext{m})
ight)^2}$



28) Volume of Cylinder given Lateral Surface Area and Height



Open Calculator

$$extbf{V} = rac{ ext{LSA}^2}{4 \cdot \pi \cdot ext{h}}$$

$$= \frac{(380 \text{m}^2)^2}{4 \cdot \pi \cdot 12 \text{m}}$$

29) Volume of Cylinder given Total Surface Area and Height G



Open Calculator

$$ext{V} = rac{\left(ext{TSA} - 2 \cdot ext{A}_{ ext{Base}}
ight)^2}{4 \cdot \pi \cdot ext{h}}$$

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Variables Used

- ABase Base Area of Cylinder (Square Meter)
- **d** Diagonal of Cylinder (Square Meter)
- **h** Height of Cylinder (*Meter*)
- LSA Lateral Surface Area of Cylinder (Square Meter)
- P Perimeter of Cylinder (Meter)
- r Radius of Cylinder (Meter)
- **TSA** Total Surface Area of Cylinder (Square Meter)
- **V** Volume of Cylinder (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 Formulas

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