



Important Formulas of Elliptic Cylinder

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Examples!

Conversions!

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List of 13 Important Formulas of Elliptic Cylinder

Important Formulas of Elliptic Cylinder

1) Height of Elliptic Cylinder

$$h = \frac{LSA}{\pi \cdot (b+a)}$$

Open Calculator

$$=$$
 $5.039907 ext{m} = rac{95 ext{m}^2}{\pi \cdot (2 ext{m} + 4 ext{m})}$

2) Height of Elliptic Cylinder given Volume

$$\mathbf{f}\mathbf{x} \mathbf{h} = rac{\mathbf{V}}{\pi \cdot \mathbf{b} \cdot \mathbf{a}}$$

Open Calculator 🛂

$$oxed{4.973592 \mathrm{m}} = rac{125 \mathrm{m}^{\scriptscriptstyle 3}}{\pi \cdot 2 \mathrm{m} \cdot 4 \mathrm{m}}$$

3) Lateral Surface Area of Elliptic Cylinder

$$LSA = \pi \cdot (b + a) \cdot h$$

Open Calculator

ex
$$94.24778 ext{m}^2 = \pi \cdot (2 ext{m} + 4 ext{m}) \cdot 5 ext{m}$$



4) Lateral Surface Area of Elliptic Cylinder given Volume

 $LSA = \pi \cdot (b + a) \cdot \frac{V}{\pi \cdot b \cdot a}$

Open Calculator

 $\texttt{ex} \ 93.75 \text{m}^{\scriptscriptstyle 2} = \pi \cdot (2\text{m} + 4\text{m}) \cdot \frac{125\text{m}^{\scriptscriptstyle 3}}{\pi \cdot 2\text{m} \cdot 4\text{m}}$

5) Semi Major Axis of Elliptic Cylinder given Volume

 $\mathbf{x} = \frac{V}{\pi \cdot \mathbf{h} \cdot \mathbf{b}}$

Open Calculator 🗗

= $3.978874 ext{m} = rac{125 ext{m}^3}{\pi \cdot 5 ext{m} \cdot 2 ext{m}}$

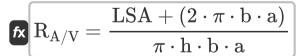
6) Semi Minor Axis of Elliptic Cylinder given Volume

 $\mathbf{f} \mathbf{x} = rac{\mathbf{V}}{\pi \cdot \mathbf{h} \cdot \mathbf{a}}$

Open Calculator

ex $1.989437 \text{m} = \frac{125 \text{m}^3}{\pi \cdot 5 \text{m} \cdot 4 \text{m}}$

7) Surface to Volume Ratio of Elliptic Cylinder



Open Calculator 🗗

 $oxed{\mathbf{ex}} egin{aligned} 1.155986\mathrm{m}^{\scriptscriptstyle{-1}} &= rac{95\mathrm{m}^{\scriptscriptstyle{2}} + \left(2\cdot\pi\cdot2\mathrm{m}\cdot4\mathrm{m}
ight)}{\pi\cdot5\mathrm{m}\cdot2\mathrm{m}\cdot4\mathrm{m}} \end{aligned}$





8) Surface to Volume Ratio of Elliptic Cylinder given Lateral Surface Area and Semi Major Axis

 $\mathbf{R}_{\mathrm{A/V}} = rac{\mathrm{LSA} + \left(2 \cdot \pi \cdot \left(rac{\mathrm{LSA}}{\pi \cdot \mathrm{h}} - \mathrm{a}
ight) \cdot \mathrm{a}
ight)}{\pi \cdot \mathrm{h} \cdot \left(rac{\mathrm{LSA}}{\pi \cdot \mathrm{h}} - \mathrm{a}
ight) \cdot \mathrm{a}}$

Open Calculator 🗗

ex $1.138308 ext{m}^{-1} = rac{95 ext{m}^2 + \left(2\cdot\pi\cdot\left(rac{95 ext{m}^2}{\pi\cdot5 ext{m}} - 4 ext{m}
ight)\cdot4 ext{m}
ight)}{\pi\cdot5 ext{m}\cdot\left(rac{95 ext{m}^2}{\pi\cdot5 ext{m}} - 4 ext{m}
ight)\cdot4 ext{m}}$

9) Surface to Volume Ratio of Elliptic Cylinder given Volume and Semi

 $m R_{A/V} = rac{LSA + rac{2 \cdot V}{h}}{V}$

Open Calculator 🗗

 $extbf{ex} 1.16 ext{m}^{ ext{-1}} = rac{95 ext{m}^2 + rac{2 \cdot 125 ext{m}^3}{5 ext{m}}}{125 ext{m}^3}$

10) Total Surface Area of Elliptic Cylinder

 $ag{TSA} = \pi \cdot (((\mathrm{b} + \mathrm{a}) \cdot \mathrm{h}) + (2 \cdot \mathrm{b} \cdot \mathrm{a}))$

Open Calculator 🗗

 $ag{ex} \left[144.5133 ext{m}^2 = \pi \cdot (((2 ext{m} + 4 ext{m}) \cdot 5 ext{m}) + (2 \cdot 2 ext{m} \cdot 4 ext{m}))
ight]$

11) Total Surface Area of Elliptic Cylinder given Lateral Surface Area

 $ag{TSA} = \overline{LSA + (2 \cdot \pi \cdot b \cdot a)}$

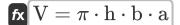
Open Calculator

=x $145.2655 ext{m}^2 = 95 ext{m}^2 + (2 \cdot \pi \cdot 2 ext{m} \cdot 4 ext{m})$





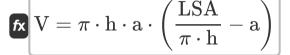
12) Volume of Elliptic Cylinder



Open Calculator

ex $125.6637 ext{m}^3 = \pi \cdot 5 ext{m} \cdot 2 ext{m} \cdot 4 ext{m}$

13) Volume of Elliptic Cylinder given Lateral Surface Area and Semi Major Axis



Open Calculator

$$extbf{ex} \ 128.6726 ext{m}^3 = \pi \cdot 5 ext{m} \cdot 4 ext{m} \cdot \left(rac{95 ext{m}^2}{\pi \cdot 5 ext{m}} - 4 ext{m}
ight)$$



Variables Used

- a Semi Major Axis of Elliptic Cylinder (Meter)
- b Semi Minor Axis of Elliptic Cylinder (Meter)
- **h** Height of Elliptic Cylinder (*Meter*)
- LSA Lateral Surface Area of Elliptic Cylinder (Square Meter)
- RAN Surface to Volume Ratio of Elliptic Cylinder (1 per Meter)
- TSA Total Surface Area of Elliptic Cylinder (Square Meter)
- **V** Volume of Elliptic Cylinder (Cubic Meter)





Constants, Functions, Measurements used

- Constant: pi, 3.14159265358979323846264338327950288
 Archimedes' constant
- 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 Tetrahedron Formulas
- Hemisphere Formulas
- Hollow Cuboid Formulas
- Hollow Cylinder Formulas
- Hollow Frustum Formulas
- 🕩 Hollow Hemisphere 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
- Ramp Formulas
- Regular Bipyramid Formulas
- Rhombohedron Formulas
- Right Wedge Formulas
- Semi Ellipsoid Formulas
 - Sharp Bent Cylinder Formulas 🖸
- Skewed Three Edged Prism Formulas





- Small Stellated Dodecahedron
 Formulas
- Solid of Revolution Formulas
- Sphere Formulas
- Spherical Cap Formulas
- Spherical Corner Formulas
- Spherical Ring Formulas G
- Spherical Sector Formulas
- Spherical Segment Formulas
- Spherical Wedge Formulas

- Square Pillar Formulas
- Star Pyramid Formulas
- Stellated Octahedron Formulas
- Toroid Formulas
- Torus Formulas
- Trirectangular Tetrahedron
 Formulas
- Truncated Rhombohedron
 Formulas

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