



Wedge Cuboid Formulas

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List of 14 Wedge Cuboid Formulas

Wedge Cuboid

Area and Volume of Wedge Cuboid 4

1) Total Surface Area of Wedge Cuboid

 $\boxed{ \text{TSA} = (l \cdot w) + (l_{Slant} \cdot w) + (w \cdot h_{Short}) + (w \cdot h_{Long}) + (l \cdot (h_{Short} + h_{Long})) }$

2) Volume of Wedge Cuboid 🖒

$$V = \left(l \cdot w \cdot h_{Short}
ight) + \left(l \cdot w \cdot rac{h_{Long} - h_{Short}}{2}
ight)$$
 (2) $V = \left(l \cdot w \cdot h_{Short}
ight) + \left(l \cdot w \cdot rac{h_{Long} - h_{Short}}{2}
ight)$

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Diagonal of Wedge Cuboid

3) Long Diagonal of Wedge Cuboid

$$m d_{Long} = \sqrt{l^2 + w^2 + h_{Long}^2}$$

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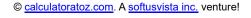
$$\mathbf{ex} \left[23.74868 \mathbf{m} = \sqrt{(10 \mathbf{m})^2 + (8 \mathbf{m})^2 + (20 \mathbf{m})^2} \right]$$

4) Short Diagonal of Wedge Cuboid 🗹

fx
$$d_{
m Short} = \sqrt{l^2 + w^2 + h_{
m Short}^2}$$

$$\mathbf{ex}$$
 17.54993m = $\sqrt{(10\text{m})^2 + (8\text{m})^2 + (12\text{m})^2}$





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Height of Wedge Cuboid

5) Long Height of Wedge Cuboid given Long Diagonal

 $h_{
m Long} = \sqrt{d_{
m Long}^2 - l^2 - w^2}$

 $20.29778 \mathrm{m} = \sqrt{\left(24 \mathrm{m}\right)^2 - \left(10 \mathrm{m}\right)^2 - \left(8 \mathrm{m}\right)^2}$

6) Short Height of Wedge Cuboid given Short Diagonal

 $h_{
m Short} = \sqrt{d_{
m Short}^2 - l^2 - w^2}$

ex $12.64911 \text{m} = \sqrt{(18\text{m})^2 - (10\text{m})^2 - (8\text{m})^2}$

Length of Wedge Cuboid

7) Length of Wedge Cuboid given Long Diagonal

 $l = \sqrt{\mathrm{d}_{\mathrm{Long}}^2 - \mathrm{w}^2 - \mathrm{h}_{\mathrm{Long}}^2}$

 $10.58301 \text{m} = \sqrt{(24 \text{m})^2 - (8 \text{m})^2 - (20 \text{m})^2}$

8) Length of Wedge Cuboid given Short Diagonal

 $l = \sqrt{\mathrm{d}_{\mathrm{Short}}^2 - \mathrm{w}^2 - \mathrm{h}_{\mathrm{Short}}^2}$

10.77033m = $\sqrt{(18m)^2 - (8m)^2 - (12m)^2}$

9) Length of Wedge Cuboid given Slant Length

 $l = \sqrt{l_{
m Slant}^2 - (h_{
m Long} - h_{
m Short})^2}$

 $10.24695m = \sqrt{(13m)^2 - (20m - 12m)^2}$







10) Length of Wedge Cuboid given Volume

$$l = rac{
m V}{\left({
m w} \cdot {
m h}_{
m Short}
ight) + \left({
m w} \cdot rac{{
m h}_{
m Long} - {
m h}_{
m Short}}{2}
ight)}$$

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$$10m = \frac{1280m^3}{(8m \cdot 12m) + (8m \cdot \frac{20m - 12m}{2})}$$

11) Slant Length of Wedge Cuboid

$$ag{l}_{
m Slant} = \sqrt{ {l}^2 + \left({{
m h}_{
m Long}} - {{
m h}_{
m Short}}
ight)^2}$$

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$$\mathbf{ex}$$
 $12.80625 \mathrm{m} = \sqrt{\left(10 \mathrm{m}\right)^2 + \left(20 \mathrm{m} - 12 \mathrm{m}\right)^2}$

Width of Wedge Cuboid &

12) Width of Wedge Cuboid given Long Diagonal

$$w=\sqrt{d_{
m Long}^2-l^2-h_{
m Long}^2}$$

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ex
$$8.717798m = \sqrt{(24m)^2 - (10m)^2 - (20m)^2}$$

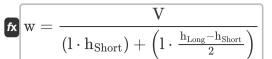
13) Width of Wedge Cuboid given Short Diagonal

$$w = \sqrt{d_{
m Short}^2 - l^2 - h_{
m Short}^2}$$

Open Calculator 🚰



14) Width of Wedge Cuboid given Volume



Open Calculator 🗗

ex
$$8m = \frac{1280m^3}{(10m \cdot 12m) + (10m \cdot \frac{20m - 12m}{2})}$$



Variables Used

- **d**Long Long Diagonal of Wedge Cuboid (Meter)
- **d**Short Short Diagonal of Wedge Cuboid (Meter)
- **h**Long Long Height of Wedge Cuboid (*Meter*)
- h_{Short} Short Height of Wedge Cuboid (Meter)
- I Length of Wedge Cuboid (Meter)
- ISlant Slant Length of Wedge Cuboid (Meter)
- TSA Total Surface Area of Wedge Cuboid (Square Meter)
- **V** Volume of Wedge Cuboid (Cubic Meter)
- w Width of Wedge Cuboid (Meter)





Constants, Functions, Measurements used

- Function: sqrt, sqrt(Number)
 A square root function is a function that takes a non-negative number as an input and returns the square root of the given input number.
- 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





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