



Important Formulas of Cone

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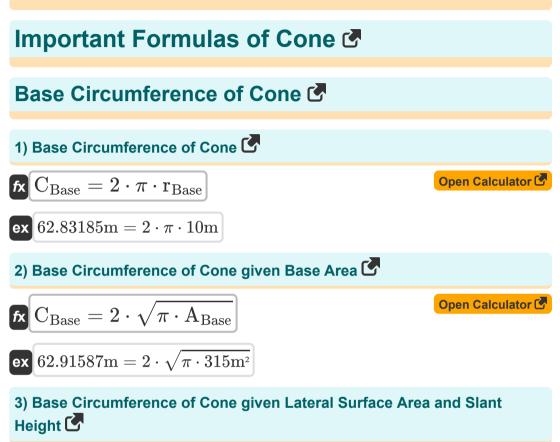
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List of 33 Important Formulas of Cone



fx
$$C_{Base} = 2 \cdot \frac{LSA}{h_{Slant}}$$
 Open Calculator
ex $63.63636m = 2 \cdot \frac{350m^2}{11m}$





4) Base Circumference of Cone given Volume C
(a) C_{Base} =
$$2 \cdot \pi \cdot \sqrt{\frac{3 \cdot 520m^3}{\pi \cdot h}}$$

(c) $62.61555m = 2 \cdot \pi \cdot \sqrt{\frac{3 \cdot 520m^3}{\pi \cdot 5m}}$
Base Radius of Cone C
5) Base Radius of Cone given Base Area C
(c) $r_{Base} = \sqrt{\frac{A_{Base}}{\pi}}$
(c) $r_{Base} = \sqrt{\frac{A_{Base}}{\pi}}$
(c) $10.01337m = \sqrt{\frac{315m^2}{\pi}}$
(c) Base Radius of Cone given Lateral Surface Area and Slant Height C
LSA Open Calculator C

fx
$$r_{Base} = rac{LSA}{\pi \cdot h_{Slant}}$$

ex $10.12804m = rac{350m^2}{\pi \cdot 11m}$





7) Base Radius of Cone given Total Surface Area and Slant Height 🕑

$$\mathbf{fx} \mathbf{r}_{\text{Base}} = \frac{1}{2} \cdot \left(\sqrt{\mathbf{h}_{\text{Slant}}^2 + \frac{4 \cdot \text{TSA}}{\pi}} - \mathbf{h}_{\text{Slant}} \right)$$
Open Calculator is
$$\mathbf{fx} \mathbf{r}_{\text{Base}} = \frac{1}{2} \cdot \left(\sqrt{\mathbf{h}_{\text{Slant}}^2 + \frac{4 \cdot 665 \text{m}^2}{\pi}} - (11 \text{m}) \right)$$

8) Base Radius of Cone given Volume

fx
$$\mathbf{r}_{\mathrm{Base}} = \sqrt{rac{3\cdot\mathrm{V}}{\pi\cdot\mathrm{h}}}$$

ex $9.965575\mathrm{m} = \sqrt{rac{3\cdot520\mathrm{m}^3}{\pi\cdot5\mathrm{m}}}$

Height of Cone 🕑

9) Height of Cone given Lateral Surface Area 🕑

fx
$$\mathbf{h} = \sqrt{\left(\frac{\mathrm{LSA}}{\pi \cdot \mathbf{r}_{\mathrm{Base}}}\right)^2 - \mathbf{r}_{\mathrm{Base}}^2}$$

ex $4.911054\mathrm{m} = \sqrt{\left(\frac{350\mathrm{m}^2}{\pi \cdot (10\mathrm{m})}\right)^2 - (10\mathrm{m})^2}$

Open Calculator 🕑

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10) Height of Cone given Total Surface Area 🕑

$$fx h = \sqrt{\left(\frac{\text{TSA}}{\pi \cdot \mathbf{r}_{\text{Base}}} - \mathbf{r}_{\text{Base}}\right)^2 - \mathbf{r}_{\text{Base}}^2}$$

$$ex 4.971464m = \sqrt{\left(\frac{665m^2}{\pi \cdot (10m)} - (10m)\right)^2 - (10m)^2}$$

11) Height of Cone given Volume

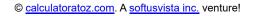
fx
$$h = \frac{3 \cdot V}{\pi \cdot r_{Base}^2}$$

ex $4.965634m = \frac{3 \cdot 520m^3}{\pi \cdot (10m)^2}$

12) Height of Cone given Volume and Base Area 🕑

fx
$$h = \frac{3 \cdot V}{A_{Base}}$$

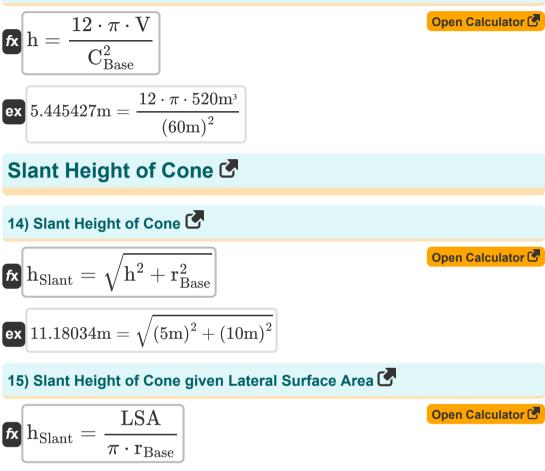
ex $4.952381m = \frac{3 \cdot 520m^3}{315m^2}$





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13) Height of Cone given Volume and Base Circumference 🕑



ex
$$11.14085m = \frac{350m^2}{\pi \cdot 10m}$$





16) Slant Height of Cone given Total Surface Area

fx
$$h_{Slant} = \frac{TSA}{\pi \cdot r_{Base}} - r_{Base}$$

ex $11.16761m = \frac{665m^2}{\pi \cdot 10m} - 10m$

17) Slant Height of Cone given Volume

fx
$$extsf{h}_{ extsf{Slant}} = \sqrt{\left(rac{3\cdot extsf{V}}{\pi\cdot extsf{r}_{ extsf{Base}}^2}
ight)^2 + extsf{r}_{ extsf{Base}}^2}$$

ex
$$11.16501 \mathrm{m} = \sqrt{\left(rac{3 \cdot 520 \mathrm{m}^3}{\pi \cdot (10 \mathrm{m})^2}
ight)^2 + (10 \mathrm{m})^2}$$

Surface Area of Cone 🕑

fx
$$\mathbf{A}_{\mathrm{Base}} = \pi \cdot \mathbf{r}_{\mathrm{Base}}^2$$

ex $314.1593\mathrm{m}^2 = \pi \cdot \left(10\mathrm{m}\right)^2$

Open Calculator 🕑



Open Calculator

19) Base Area of Cone given Lateral Surface Area and Slant Height 子

$$f X A_{Base} = \pi \cdot \left(\frac{LSA}{\pi \cdot h_{Slant}}\right)^{2}$$

$$e X 322.2559m^{2} = \pi \cdot \left(\frac{350m^{2}}{\pi \cdot 11m}\right)^{2}$$
20) Lateral Surface Area of Cone C
$$f X LSA = \pi \cdot r_{Base} \cdot h_{Slant}$$

$$e X 345.5752m^{2} = \pi \cdot 10m \cdot 11m$$

$$Open Calculator C$$

21) Lateral Surface Area of Cone given Base Area and Slant Height 🕑

fx
$$\mathrm{LSA} = \pi \cdot \sqrt{rac{\mathrm{A}_{\mathrm{Base}}}{\pi}} \cdot \mathrm{h}_{\mathrm{Slant}}$$

ex
$$346.0373 \mathrm{m}^2 = \pi \cdot \sqrt{\frac{315 \mathrm{m}^2}{\pi}} \cdot 11 \mathrm{m}$$

22) Lateral Surface Area of Cone given Base Circumference and Slant Height

fx
$$LSA = rac{C_{Base}}{2} \cdot h_{Slant}$$

ex $330m^2 = rac{60m}{2} \cdot 11m$

Open Calculator



23) Lateral Surface Area of Cone given Height 🕑

fx
$$\mathrm{LSA} = \pi \cdot \mathrm{r}_{\mathrm{Base}} \cdot \sqrt{\mathrm{h}^2 + \mathrm{r}_{\mathrm{Base}}^2}$$

ex
$$351.2407 \mathrm{m}^2 = \pi \cdot (10 \mathrm{m}) \cdot \sqrt{(5 \mathrm{m})^2 + (10 \mathrm{m})^2}$$

24) Lateral Surface Area of Cone given Volume

fx
$$ext{LSA} = \pi \cdot ext{r}_{ ext{Base}} \cdot \sqrt{\left(rac{3 \cdot ext{V}}{\pi \cdot ext{r}_{ ext{Base}}^2}
ight)^2 + ext{r}_{ ext{Base}}^2}$$

ex
$$350.7592 \mathrm{m}^2 = \pi \cdot (10 \mathrm{m}) \cdot \sqrt{\left(rac{3 \cdot 520 \mathrm{m}^3}{\pi \cdot (10 \mathrm{m})^2}
ight)^2 + (10 \mathrm{m})^2}$$

25) Total Surface Area of Cone 🕑

fx
$$ext{TSA} = \pi \cdot ext{r}_{ ext{Base}} \cdot (ext{r}_{ ext{Base}} + ext{h}_{ ext{Slant}})$$

ex $659.7345m^2 = \pi \cdot 10m \cdot (10m + 11m)$

26) Total Surface Area of Cone given Base Area 🕑

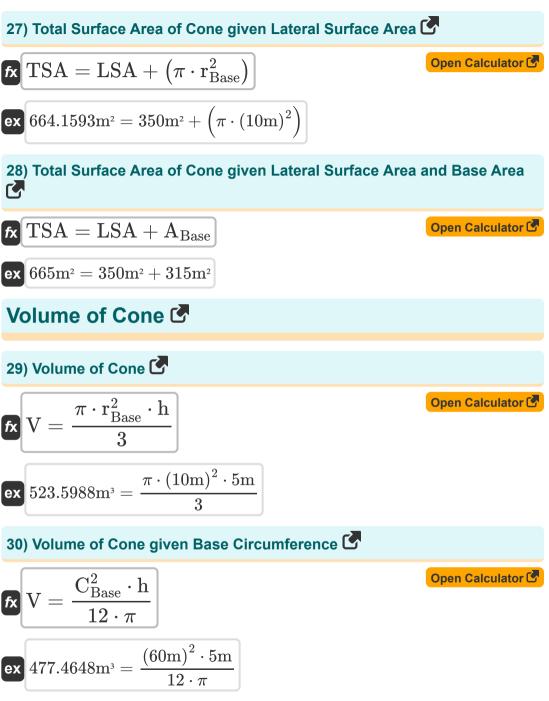
fx
$$ext{TSA} = (\pi \cdot ext{r}_{ ext{Base}} \cdot ext{h}_{ ext{Slant}}) + ext{A}_{ ext{Base}}$$

x
$$660.5752 \mathrm{m}^2 = (\pi \cdot 10 \mathrm{m} \cdot 11 \mathrm{m}) + 315 \mathrm{m}^2$$

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31) Volume of Cone given Lateral Surface Area 🕑

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fx
$$V = \frac{\pi \cdot r_{\text{Base}}^2 \cdot \sqrt{\left(\frac{\text{LSA}}{\pi \cdot r_{\text{Base}}}\right)^2 - r_{\text{Base}}^2}}{3}$$
ex 514.2844m³ =
$$\frac{\pi \cdot (10\text{m})^2 \cdot \sqrt{\left(\frac{350\text{m}^2}{\pi \cdot (10\text{m})}\right)^2 - (10\text{m})^2}}{3}$$

32) Volume of Cone given Slant Height and Height 🕑

fx
$$V = \frac{\pi \cdot \left(h_{\text{Slant}}^2 - h^2\right) \cdot h}{3}$$
ex
$$502.6548\text{m}^3 = \frac{\pi \cdot \left(\left(11\text{m}\right)^2 - \left(5\text{m}\right)^2\right) \cdot \left(5\text{m}\right)}{3}$$

33) Volume of Cone given Total Surface Area 🕑

$$\mathbf{fx} = \frac{\pi \cdot \mathbf{r}_{\text{Base}}^2 \cdot \sqrt{\left(\frac{\text{TSA}}{\pi \cdot \mathbf{r}_{\text{Base}}} - \mathbf{r}_{\text{Base}}\right)^2 - \mathbf{r}_{\text{Base}}^2}}{3}$$
Open Calculator

$$\mathbf{fx} = \frac{\pi \cdot \mathbf{r}_{\text{Base}}^2 \cdot \sqrt{\left(\frac{\text{TSA}}{\pi \cdot \mathbf{r}_{\text{Base}}} - \mathbf{r}_{\text{Base}}\right)^2 - \mathbf{r}_{\text{Base}}^2}}{3}$$



Open Calculator

Variables Used

- ABase Base Area of Cone (Square Meter)
- CBase Base Circumference of Cone (Meter)
- **h** Height of Cone (Meter)
- h_{Slant} Slant Height of Cone (Meter)
- LSA Lateral Surface Area of Cone (Square Meter)
- **r**Base Base Radius of Cone (Meter)
- TSA Total Surface Area of Cone (Square Meter)
- V Volume of Cone (Cubic Meter)

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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



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