



Semicircle Formulas

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List of 25 Semicircle Formulas

Semicircle 🗗

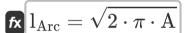
Arc Length of Semicircle

1) Arc Length of Semicircle

fx
$$l_{
m Arc} = \pi \cdot {
m r}$$

$$= 31.41593 \text{m} = \pi \cdot 10 \text{m}$$

2) Arc Length of Semicircle given Area



Open Calculator

Open Calculator

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

3) Arc Length of Semicircle given Area of Circle

fx
$$l_{
m Arc} = \sqrt{A_{
m Circle} \cdot \pi}$$

Open Calculator 🖸

$$\textbf{ex} \ 31.70662 \text{m} = \sqrt{320 \text{m}^2 \cdot \pi}$$

Open Calculator

Open Calculator 2

Open Calculator 2

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4) Arc Length of Semicircle given Diameter

fx $l_{
m Arc} = rac{\pi}{2} \cdot {
m D}$

$$\begin{array}{c} \text{ex} \\ 31.41593\text{m} = \frac{\pi}{2} \cdot 20\text{m} \end{array}$$

5) Arc Length of Semicircle given Perimeter

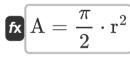
 $l_{
m Arc} = rac{\pi}{\pi + 2} \cdot {
m P}$

$$= \frac{\pi}{30.55077 \text{m}} = \frac{\pi}{\pi + 2} \cdot 50 \text{m}$$

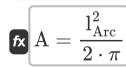
Area of Semicircle &

= 157.0796m² $=\frac{\pi}{2} \cdot (10$ m $)^2$

6) Area of Semicircle



7) Area of Semicircle given Arc Length



ex
$$143.2394\text{m}^2 = \frac{(30\text{m})^2}{2 \cdot \pi}$$





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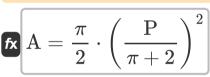
8) Area of Semicircle given Area of Circle

9) Area of Semicircle given Diameter of Semicircle

 $\mathbf{K} \mathbf{A} = \frac{\pi}{8} \cdot \mathbf{D}^2$

= $157.0796 \mathrm{m}^2 = rac{\pi}{8} \cdot (20 \mathrm{m})^2$

10) Area of Semicircle given Perimeter 🖸



 $oxed{ex} \left[148.5472 \mathrm{m}^2 = rac{\pi}{2} \cdot \left(rac{50 \mathrm{m}}{\pi + 2}
ight)^2
ight]$

Diameter of Semicircle

11) Diameter of Semicircle

fx
$$D=2\cdot r$$

$$\boxed{\text{ex}} 20\text{m} = 2 \cdot 10\text{m}$$







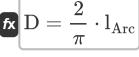
Open Calculator 2

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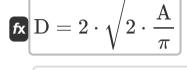
12) Diameter of Semicircle given Arc Length

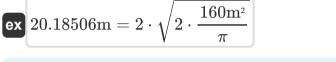


$$1_{
m Arc}$$

 $= 19.09859 \text{m} = \frac{2}{\pi} \cdot 30 \text{m}$

13) Diameter of Semicircle given Area

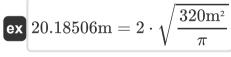




14) Diameter of Semicircle given Area of Circle

$D = 2 \cdot \sqrt{rac{ ext{A}_{ ext{Circle}}}{\pi}}$







$$D = rac{2}{\pi + 2} \cdot P$$

$$\boxed{19.44923 \text{m} = \frac{2}{\pi + 2} \cdot 50 \text{m}}$$







Perimeter of Semicircle

16) Perimeter of Semicircle

$$P = (\pi + 2) \cdot r$$

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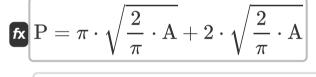
 $| \mathbf{ex} | 51.41593 \mathbf{m} = (\pi + 2) \cdot 10 \mathbf{m}$

17) Perimeter of Semicircle given Arc Length

$$ext{P} = rac{\pi + 2}{\pi} \cdot l_{ ext{Arc}}$$

 $49.09859 \text{m} = \frac{\pi + 2}{\pi} \cdot 30 \text{m}$

18) Perimeter of Semicircle given Area

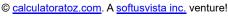


19) Perimeter of Semicircle given Area of Circle

 $ext{ex} \ 51.89168 ext{m} = \pi \cdot \sqrt{rac{2}{\pi}} \cdot 160 ext{m}^2 + 2 \cdot \sqrt{rac{2}{\pi}} \cdot 160 ext{m}^2$

$$extbf{P} = (\pi + 2) \cdot \sqrt{rac{ ext{A}_{ ext{Circle}}}{\pi}}$$

ex
$$51.89168 \mathrm{m} = (\pi + 2) \cdot \sqrt{\frac{320 \mathrm{m}^2}{\pi}}$$





20) Perimeter of Semicircle given Diameter

 $ext{P} = \left(rac{\pi}{2} + 1
ight) \cdot ext{D}$

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 $\texttt{ex} \boxed{51.41593 \text{m} = \left(\frac{\pi}{2} + 1\right) \cdot 20 \text{m}}$

Radius of Semicircle 2

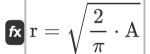
21) Radius of Semicircle given Arc Length

fx $=rac{\overline{l_{
m Arc}}}{\pi}$

Open Calculator 🗗

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

22) Radius of Semicircle given Area



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

23) Radius of Semicircle given Area of Circle



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ex $10.09253 \mathrm{m} = \sqrt{\frac{320 \mathrm{m}^2}{\pi}}$

24) Radius of Semicircle given Diameter 🗗



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 $\boxed{10\text{m} = \frac{20\text{m}}{2}}$

25) Radius of Semicircle given Perimeter

fx
$$r=rac{ ext{P}}{\pi+2}$$

Open Calculator

 $9.724613m = \frac{50m}{\pi + 2}$



Variables Used

- A Area of Semicircle (Square Meter)
- Acircle Area of Circle of Semicircle (Square Meter)
- **D** Diameter of Semicircle (Meter)
- IArc Arc Length of Semicircle (Meter)
- P Perimeter of Semicircle (Meter)
- r Radius of Semicircle (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: Area in Square Meter (m²)

 Area Unit Conversion





Check other formula lists

- Annulus Formulas G
- Antiparallelogram Formulas
- Arrow Hexagon Formulas
- Astroid Formulas
- Bulge Formulas
- Cardioid Formulas
- Circular Arc Quadrangle
 Formulas
- Concave Pentagon Formulas
- Concave Quadrilateral
 Formulas
- Concave Regular Hexagon
 Formulas
- Concave Regular Pentagon
 Formulas
- Crossed Rectangle Formulas
- Cut Rectangle Formulas
- Cyclic Quadrilateral Formulas
- Cycloid Formulas
- Decagon Formulas
- Dodecagon Formulas
- Double Cycloid Formulas
- Fourstar Formulas
- Frame Formulas
- Golden Rectangle Formulas 🗗
- Grid Formulas
- H Shape Formulas

- Half Yin-Yang Formulas
- Heart Shape Formulas
- Hendecagon Formulas
- Heptagon Formulas
- Hexadecagon Formulas
- Hexagon Formulas
- Hexagram Formulas 💪
- House Shape Formulas
- Hyperbola Formulas
- Hypocycloid Formulas
- Isosceles Trapezoid Formulas
- Koch Curve Formulas
- L Shape Formulas
- Line Formulas
- Lune Formulas
- N-gon Formulas
- Nonagon Formulas
- Octagon Formulas
- Octagram Formulas
- Open Frame Formulas
- Parallelogram Formulas 💪
- Pentagon Formulas
- Pentagram Formulas
- Polygram Formulas
- Quadrilateral Formulas
- Quarter Circle Formulas
- Rectangle Formulas

- Rectangular Hexagon Formulas
- Regular Polygon Formulas G
- Reuleaux Triangle Formulas
- Rhombus Formulas
- Right Trapezoid Formulas
- Round Corner Formulas
- Salinon Formulas
- Semicircle Formulas
- Sharp Kink Formulas
- Square Formulas

- Star of Lakshmi Formulas
- Stretched Hexagon Formulas
- T Shape Formulas
- Tangential Quadrilateral Formulas
- Trapezoid Formulas
- Tricorn Formulas
- Tri-equilateral Trapezoid
 Formulas
- Truncated Square Formulas
- Unicursal Hexagram Formulas
- X Shape Formulas

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