calculatoratoz.com

unitsconverters.com

Kite Formulas

Calculators! Examples! Conversions!

Bookmark **calculatoratoz.com**, **unitsconverters.com**

Widest Coverage of Calculators and Growing - **30,000+ Calculators!**
Calculate With a Different Unit for Each Variable - **In built Unit Conversion!**
Widest Collection of Measurements and Units - **250+ Measurements!**

Feel free to SHARE this document with your friends!

Please leave your feedback here...

List of 17 Kite Formulas

Kite

Angles of Kite

1) Larger Angle of Kite

fx Open Calculator

$$\angle_{\text{Large}} = 2 \cdot \left(\arccos \left(\frac{d_{\text{Short Section}}^2 + S_{\text{Short}}^2 - \left(\frac{d_{\text{Non Symmetry}}}{2} \right)^2}{2 \cdot d_{\text{Short Section}} \cdot S_{\text{Short}}} \right) \right)$$

ex $$134.7603^\circ = 2 \cdot \left(\arccos \left(\frac{(5\text{m})^2 + (13\text{m})^2 - \left(\frac{24\text{m}}{2} \right)^2}{2 \cdot (5\text{m}) \cdot (13\text{m})} \right) \right)$$

2) Smaller Angle of Kite

fx Open Calculator

$$\angle_{\text{Small}} = 2 \cdot \left(\arccos \left(\frac{d_{\text{Long Section}}^2 + S_{\text{Long}}^2 - \left(\frac{d_{\text{Non Symmetry}}}{2} \right)^2}{2 \cdot d_{\text{Long Section}} \cdot S_{\text{Long}}} \right) \right)$$

ex $$106.2602^\circ = 2 \cdot \left(\arccos \left(\frac{(9\text{m})^2 + (15\text{m})^2 - \left(\frac{24\text{m}}{2} \right)^2}{2 \cdot (9\text{m}) \cdot (15\text{m})} \right) \right)$$

3) Symmetry Angle of Kite

Open Calculator

fx $$\angle_{\text{Symmetry}} = \frac{(2 \cdot \pi) - \angle_{\text{Large}} - \angle_{\text{Small}}}{2}$$

ex $$60^\circ = \frac{(2 \cdot \pi) - 135^\circ - 105^\circ}{2}$$

Area of Kite

4) Area of Kite

Open Calculator

fx $$A = \frac{d_{\text{Symmetry}} \cdot d_{\text{Non Symmetry}}}{2}$$

ex $$168\text{m}^2 = \frac{14\text{m} \cdot 24\text{m}}{2}$$

5) Area of Kite given Inradius

Open Calculator

fx $$A = \frac{r_i \cdot P}{2}$$

ex $$165\text{m}^2 = \frac{6\text{m} \cdot 55\text{m}}{2}$$

6) Area of Kite given Sides and Symmetry Angle

Open Calculator

fx $$A = S_{\text{Long}} \cdot S_{\text{Short}} \cdot \sin(\angle_{\text{Symmetry}})$$

ex $$168.875\text{m}^2 = 15\text{m} \cdot 13\text{m} \cdot \sin(60^\circ)$$

Perimeter of Kite

7) Perimeter of Kite

Open Calculator

fx $$P = 2 \cdot (S_{Long} + S_{Short})$$

ex $$56\text{m} = 2 \cdot (15\text{m} + 13\text{m})$$

8) Perimeter of Kite given Inradius

Open Calculator

fx $$P = \frac{2 \cdot A}{r_i}$$

ex $$56.66667\text{m} = \frac{2 \cdot 170\text{m}^2}{6\text{m}}$$

Radius and Diagonal of Kite

9) Inradius of Kite

Open Calculator

fx $$r_i = \frac{2 \cdot A}{P}$$

ex $$6.181818\text{m} = \frac{2 \cdot 170\text{m}^2}{55\text{m}}$$

10) Non Symmetry Diagonal of Kite given Area

Open Calculator

fx $$d_{\text{Non Symmetry}} = \frac{2 \cdot A}{d_{\text{Symmetry}}}$$

ex $$24.28571\text{m} = \frac{2 \cdot 170\text{m}^2}{14\text{m}}$$

11) Symmetry Diagonal of Kite given Area

Open Calculator

fx $$d_{Symmetry} = \frac{2 \cdot A}{d_{Non\ Symmetry}}$$

ex $$14.16667\text{m} = \frac{2 \cdot 170\text{m}^2}{24\text{m}}$$

Side of Kite

Long Side of Kite

12) Long Side of Kite

Open Calculator

fx $$S_{Long} = \sqrt{\left(\frac{d_{Non\ Symmetry}}{2}\right)^2 + d_{Long\ Section}^2}$$

ex $$15\text{m} = \sqrt{\left(\frac{24\text{m}}{2}\right)^2 + (9\text{m})^2}$$

13) Long Side of Kite given Area, Inradius and Short Side

Open Calculator

fx $$S_{Long} = \left(\frac{A}{r_i}\right) - S_{Short}$$

ex $$15.33333\text{m} = \left(\frac{170\text{m}^2}{6\text{m}}\right) - 13\text{m}$$

14) Long Side of Kite given Perimeter and Short Side

Open Calculator

fx $$S_{Long} = \left(\frac{P}{2}\right) - S_{Short}$$

ex $$14.5\text{m} = \left(\frac{55\text{m}}{2}\right) - 13\text{m}$$

Short Side of Kite

15) Short Side of Kite

Open Calculator

fx $$S_{Short} = \sqrt{\left(\frac{d_{Non\ Symmetry}}{2}\right)^2 + d_{Short\ Section}^2}$$

ex $$13\text{m} = \sqrt{\left(\frac{24\text{m}}{2}\right)^2 + (5\text{m})^2}$$

16) Short Side of Kite given Area, Inradius and Long Side

Open Calculator

fx $$S_{Short} = \left(\frac{A}{r_i}\right) - S_{Long}$$

ex $$13.33333\text{m} = \left(\frac{170\text{m}^2}{6\text{m}}\right) - 15\text{m}$$

17) Short Side of Kite given Perimeter and Long Side

Open Calculator

fx $$S_{Short} = \left(\frac{P}{2}\right) - S_{Long}$$

ex $$12.5\text{m} = \left(\frac{55\text{m}}{2}\right) - 15\text{m}$$

Variables Used

- $\angle_{Large}$ Larger Angle of Kite *(Degree)*
- $\angle_{Small}$ Smaller Angle of Kite *(Degree)*
- $\angle_{Symmetry}$ Symmetry Angle of Kite *(Degree)*
- **A** Area of Kite *(Square Meter)*
- $d_{Long\ Section}$ Symmetry Diagonal Long Section of Kite *(Meter)*
- $d_{Non\ Symmetry}$ Non Symmetry Diagonal of Kite *(Meter)*
- $d_{Short\ Section}$ Symmetry Diagonal Short Section of Kite *(Meter)*
- $d_{Symmetry}$ Symmetry Diagonal of Kite *(Meter)*
- **P** Perimeter of Kite *(Meter)*
- r_i Inradius of Kite *(Meter)*
- S_{Long} Long Side of Kite *(Meter)*
- S_{Short} Short Side of Kite *(Meter)*

Constants, Functions, Measurements used

- Constant: **pi**, 3.14159265358979323846264338327950288
  Archimedes' constant
- Function: **arccos**, arccos(Number)
  Inverse trigonometric cosine function
- Function: **cos**, cos(Angle)
  Trigonometric cosine function
- Function: **sin**, sin(Angle)
  Trigonometric sine function
- Function: **sqrt**, sqrt(Number)
  Square root function
- Measurement: **Length** in Meter (m)
  Length Unit Conversion
- Measurement: **Area** in Square Meter (m²)
  Area Unit Conversion
- Measurement: **Angle** in Degree (°)
  Angle Unit Conversion

Check other formula lists

- Annulus Formulas
- 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
- 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

Feel free to SHARE this document with your friends!

PDF Available in

English Spanish French German Russian Italian Portuguese Polish Dutch

5/17/2023 | 6:41:22 AM UTC

Please leave your feedback here...