

Important Right Kite Formulas PDF



Formulas Examples with Units

List of 15 Important Right Kite Formulas

1) Angles of Right Kite Formulas ↻

1.1) Acute Angle of Right Kite Formula ↻

Formula

$$\angle_{\text{Acute}} = \pi - \angle_{\text{Obtuse}}$$

Example with Units

$$45^\circ = 3.1416 - 135^\circ$$

Evaluate Formula ↻

1.2) Obtuse Angle of Right Kite Formula ↻

Formula

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

Evaluate Formula ↻

Example with Units

$$134.7603^\circ = 2 \cdot \arccos \left(\frac{5\text{m}^2 + 13\text{m}^2 - 12\text{m}^2}{2 \cdot 5\text{m} \cdot 13\text{m}} \right)$$

2) Area and Perimeter of Right Kite Formulas ↻

2.1) Area of Right Kite Formula ↻

Formula

$$A = S_{\text{Short}} \cdot S_{\text{Long}}$$

Example with Units

$$60\text{m}^2 = 5\text{m} \cdot 12\text{m}$$

Evaluate Formula ↻

2.2) Perimeter of Right Kite Formula ↻

Formula

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

Example with Units

$$34\text{m} = 2 \cdot (5\text{m} + 12\text{m})$$

Evaluate Formula ↻

3) Diagonals of Right Kite Formulas ↻

3.1) Non Symmetry Diagonal of Right Kite Formula ↻

Formula

$$d_{\text{Non Symmetry}} = \frac{2 \cdot S_{\text{Short}} \cdot S_{\text{Long}}}{d_{\text{Symmetry}}}$$

Example with Units

$$9.2308\text{m} = \frac{2 \cdot 5\text{m} \cdot 12\text{m}}{13\text{m}}$$

Evaluate Formula ↻



3.2) Symmetry Diagonal of Right Kite Formula

Formula

$$d_{\text{Symmetry}} = \sqrt{S_{\text{Short}}^2 + S_{\text{Long}}^2}$$

Example with Units

$$13\text{ m} = \sqrt{5\text{ m}^2 + 12\text{ m}^2}$$

Evaluate Formula 

3.3) Symmetry Diagonal of Right Kite given Circumradius Formula

Formula

$$d_{\text{Symmetry}} = 2 \cdot r_c$$

Example with Units

$$14\text{ m} = 2 \cdot 7\text{ m}$$

Evaluate Formula 

4) Radius of Right Kite Formulas

4.1) Circumradius of Right Kite Formula

Formula

$$r_c = \frac{d_{\text{Symmetry}}}{2}$$

Example with Units

$$6.5\text{ m} = \frac{13\text{ m}}{2}$$

Evaluate Formula 

4.2) Inradius of Right Kite Formula

Formula

$$r_i = \frac{S_{\text{Short}} \cdot S_{\text{Long}}}{S_{\text{Short}} + S_{\text{Long}}}$$

Example with Units

$$3.5294\text{ m} = \frac{5\text{ m} \cdot 12\text{ m}}{5\text{ m} + 12\text{ m}}$$

Evaluate Formula 

5) Sides of Right Kite Formulas

5.1) Long Side of Right Kite Formulas

5.1.1) Long Side of Right Kite given Area Formula

Formula

$$S_{\text{Long}} = \frac{A}{S_{\text{Short}}}$$

Example with Units

$$12\text{ m} = \frac{60\text{ m}^2}{5\text{ m}}$$

Evaluate Formula 

5.1.2) Long Side of Right Kite given both Diagonals Formula

Formula

$$S_{\text{Long}} = \frac{d_{\text{Symmetry}} \cdot d_{\text{Non Symmetry}}}{2 \cdot S_{\text{Short}}}$$

Example with Units

$$11.7\text{ m} = \frac{13\text{ m} \cdot 9\text{ m}}{2 \cdot 5\text{ m}}$$

Evaluate Formula 

5.1.3) Long Side of Right Kite given Symmetry Diagonal Formula

Formula

$$S_{\text{Long}} = \sqrt{d_{\text{Symmetry}}^2 - S_{\text{Short}}^2}$$

Example with Units

$$12\text{ m} = \sqrt{13\text{ m}^2 - 5\text{ m}^2}$$

Evaluate Formula 



5.2) Short Side of Right Kite Formulas

5.2.1) Short Side of Right Kite given Area Formula

Formula

$$S_{\text{Short}} = \frac{A}{S_{\text{Long}}}$$

Example with Units

$$5_{\text{m}} = \frac{60_{\text{m}^2}}{12_{\text{m}}}$$

Evaluate Formula 

5.2.2) Short Side of Right Kite given both Diagonals Formula

Formula

$$S_{\text{Short}} = \frac{d_{\text{Symmetry}} \cdot d_{\text{Non Symmetry}}}{2 \cdot S_{\text{Long}}}$$

Example with Units

$$4.875_{\text{m}} = \frac{13_{\text{m}} \cdot 9_{\text{m}}}{2 \cdot 12_{\text{m}}}$$

Evaluate Formula 

5.2.3) Short Side of Right Kite given Symmetry Diagonal Formula

Formula

$$S_{\text{Short}} = \sqrt{d_{\text{Symmetry}}^2 - S_{\text{Long}}^2}$$

Example with Units

$$5_{\text{m}} = \sqrt{13_{\text{m}}^2 - 12_{\text{m}}^2}$$

Evaluate Formula 



Variables used in list of Right Kite Formulas above

- $\angle$ **Acute** Acute Angle of Right Kite (Degree)
- $\angle$ **Obtuse** Obtuse Angle of Right Kite (Degree)
- **A** Area of Right Kite (Square Meter)
- **d** **Non Symmetry** Non Symmetry Diagonal of Right Kite (Meter)
- **d** **Symmetry** Symmetry Diagonal of Right Kite (Meter)
- **P** Perimeter of Right Kite (Meter)
- **r_c** Circumradius of Right Kite (Meter)
- **r_i** Inradius of Right Kite (Meter)
- **S** **Long** Long Side of Right Kite (Meter)
- **S** **Short** Short Side of Right Kite (Meter)

Constants, Functions, Measurements used in list of Right Kite Formulas above

- **constant(s):** π , 3.14159265358979323846264338327950288
Archimedes' constant
- **Functions:** **arccos**, arccos(Number)
Arccosine function, is the inverse function of the cosine function. It is the function that takes a ratio as an input and returns the angle whose cosine is equal to that ratio.
- **Functions:** **cos**, cos(Angle)
Cosine of an angle is the ratio of the side adjacent to the angle to the hypotenuse of the triangle.
- **Functions:** **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:** **Area** in Square Meter (m²)
Area Unit Conversion 
- **Measurement:** **Angle** in Degree (°)
Angle Unit Conversion 



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