

Important Formulas of Isosceles Right Triangle PDF



Formulas Examples with Units

List of 12

Important Formulas of Isosceles Right Triangle

1) Area of Isosceles Right Triangle Formula ↻

Formula

$$A = \frac{(S_{\text{Legs}})^2}{2}$$

Example with Units

$$32\text{m}^2 = \frac{(8\text{m})^2}{2}$$

Evaluate Formula ↻

2) Area of Isosceles Right Triangle given Hypotenuse Formula ↻

Formula

$$A = \frac{H^2}{4}$$

Example with Units

$$30.25\text{m}^2 = \frac{11\text{m}^2}{4}$$

Evaluate Formula ↻

3) Circumradius of Isosceles Right Triangle Formula ↻

Formula

$$r_c = \frac{S_{\text{Legs}}}{\sqrt{2}}$$

Example with Units

$$5.6569\text{m} = \frac{8\text{m}}{\sqrt{2}}$$

Evaluate Formula ↻

4) Hypotenuse of Isosceles Right Triangle Formula ↻

Formula

$$H = \sqrt{2} \cdot S_{\text{Legs}}$$

Example with Units

$$11.3137\text{m} = \sqrt{2} \cdot 8\text{m}$$

Evaluate Formula ↻

5) Hypotenuse of Isosceles Right Triangle given Perimeter Formula ↻

Formula

$$H = \frac{P}{1 + \sqrt{2}}$$

Example with Units

$$11.1838\text{m} = \frac{27\text{m}}{1 + \sqrt{2}}$$

Evaluate Formula ↻

6) Inradius of Isosceles Right Triangle Formula ↻

Formula

$$r_i = \frac{S_{\text{Legs}}}{2 + \sqrt{2}}$$

Example with Units

$$2.3431\text{m} = \frac{8\text{m}}{2 + \sqrt{2}}$$

Evaluate Formula ↻



7) Legs of Isosceles Right Triangle given Area Formula

Formula

$$S_{\text{Legs}} = \sqrt{2 \cdot A}$$

Example with Units

$$8 \text{ m} = \sqrt{2 \cdot 32 \text{ m}^2}$$

Evaluate Formula 

8) Legs of Isosceles Right Triangle given Hypotenuse Formula

Formula

$$S_{\text{Legs}} = \frac{H}{\sqrt{2}}$$

Example with Units

$$7.7782 \text{ m} = \frac{11 \text{ m}}{\sqrt{2}}$$

Evaluate Formula 

9) Median Line on Hypotenuse of Isosceles Right Triangle Formula

Formula

$$M_{\text{Hypotenuse}} = \frac{S_{\text{Legs}}}{\sqrt{2}}$$

Example with Units

$$5.6569 \text{ m} = \frac{8 \text{ m}}{\sqrt{2}}$$

Evaluate Formula 

10) Median Line on Legs of Isosceles Right Triangle Formula

Formula

$$M_{\text{Legs}} = \frac{\sqrt{5} \cdot S_{\text{Legs}}}{2}$$

Example with Units

$$8.9443 \text{ m} = \frac{\sqrt{5} \cdot 8 \text{ m}}{2}$$

Evaluate Formula 

11) Perimeter of Isosceles Right Triangle Formula

Formula

$$P = (2 + \sqrt{2}) \cdot S_{\text{Legs}}$$

Example with Units

$$27.3137 \text{ m} = (2 + \sqrt{2}) \cdot 8 \text{ m}$$

Evaluate Formula 

12) Perimeter of Isosceles Right Triangle given Median Line on Legs Formula

Formula

$$P = (2 + \sqrt{2}) \cdot \frac{2 \cdot M_{\text{Legs}}}{\sqrt{5}}$$

Example with Units

$$27.4839 \text{ m} = (2 + \sqrt{2}) \cdot \frac{2 \cdot 9 \text{ m}}{\sqrt{5}}$$

Evaluate Formula 



Variables used in list of Important Formulas of Isosceles Right Triangle above

- **A** Area of Isosceles Right Triangle (Square Meter)
- **H** Hypotenuse of Isosceles Right Triangle (Meter)
- **M_{Hypotenuse}** Median on Hypotenuse of Isosceles Right Triangle (Meter)
- **M_{Legs}** Median on Legs of Isosceles Right Triangle (Meter)
- **P** Perimeter of Isosceles Right Triangle (Meter)
- **r_c** Circumradius of Isosceles Right Triangle (Meter)
- **r_i** Inradius of Isosceles Right Triangle (Meter)
- **S_{Legs}** Legs of Isosceles Right Triangle (Meter)

Constants, Functions, Measurements used in list of Important Formulas of Isosceles Right Triangle above

- **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 



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