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Important Formulas of Right Angled Triangle

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List of 14 Important Formulas of Right Angled Triangle

Important Formulas of Right Angled Triangle



1) Altitude of Right Angled Triangle

$$fx \quad h' = \frac{h \cdot B}{\sqrt{h^2 + B^2}}$$

Open Calculator

$$ex \quad 7.058824m = \frac{8m \cdot 15m}{\sqrt{(8m)^2 + (15m)^2}}$$

2) Area of Right Angled Triangle

$$fx \quad A = \frac{B \cdot h}{2}$$

Open Calculator

$$ex \quad 60m^2 = \frac{15m \cdot 8m}{2}$$

3) Base of Right Angled Triangle

$$fx \quad B = \sqrt{H^2 - h^2}$$

Open Calculator

$$ex \quad 15m = \sqrt{(17m)^2 - (8m)^2}$$



4) Circumradius of Right Angled Triangle

$$\text{fx } r_c = \frac{H}{2}$$

[Open Calculator !\[\]\(cbe80b694ebd74fcfe136a095b608235_img.jpg\)](#)

$$\text{ex } 8.5\text{m} = \frac{17\text{m}}{2}$$

5) Circumradius of Right Angled Triangle given Sides

$$\text{fx } r_c = \frac{\sqrt{h^2 + B^2}}{2}$$

[Open Calculator !\[\]\(3e2231b1ad3ca8da8658228c00dd08e0_img.jpg\)](#)

$$\text{ex } 8.5\text{m} = \frac{\sqrt{(8\text{m})^2 + (15\text{m})^2}}{2}$$

6) Height of Right Angled Triangle

$$\text{fx } h = \sqrt{H^2 - B^2}$$

[Open Calculator !\[\]\(0d5ec72f61334709c3fc9450209b754f_img.jpg\)](#)

$$\text{ex } 8\text{m} = \sqrt{(17\text{m})^2 - (15\text{m})^2}$$

7) Hypotenuse of Right Angled Triangle

$$\text{fx } H = \sqrt{h^2 + B^2}$$

[Open Calculator !\[\]\(b64b40baaee5acddc1eab8538ba84754_img.jpg\)](#)

$$\text{ex } 17\text{m} = \sqrt{(8\text{m})^2 + (15\text{m})^2}$$



8) Inradius of Right Angled Triangle [Open Calculator !\[\]\(dfbd6b3763a6d1d9afaa974f64e2e4b5_img.jpg\)](#)

$$\text{fx } r_i = \frac{h + B - \sqrt{h^2 + B^2}}{2}$$

$$\text{ex } 3m = \frac{8m + 15m - \sqrt{(8m)^2 + (15m)^2}}{2}$$

9) Median Line on Base of Right Angled Triangle [Open Calculator !\[\]\(ec9132f1d27c8919987d92907322654d_img.jpg\)](#)

$$\text{fx } M_B = \frac{\sqrt{2 \cdot (2 \cdot h^2 + B^2) - B^2}}{2}$$

$$\text{ex } 10.96586m = \frac{\sqrt{2 \cdot (2 \cdot (8m)^2 + (15m)^2) - (15m)^2}}{2}$$

10) Median Line on Height of Right Angled Triangle [Open Calculator !\[\]\(758ebdf4629c903da74c2e079717ae32_img.jpg\)](#)

$$\text{fx } M_h = \frac{\sqrt{2 \cdot (2 \cdot B^2 + h^2) - h^2}}{2}$$

$$\text{ex } 15.52417m = \frac{\sqrt{2 \cdot (2 \cdot (15m)^2 + (8m)^2) - (8m)^2}}{2}$$



11) Median Line on Hypotenuse of Right Angled Triangle

[Open Calculator !\[\]\(bd1a142de767a21e5362c595f844a4ff_img.jpg\)](#)

$$\text{fx } M_H = \frac{\sqrt{2 \cdot (h^2 + B^2) - h^2 - B^2}}{2}$$

$$\text{ex } 8.5\text{m} = \frac{\sqrt{2 \cdot ((8\text{m})^2 + (15\text{m})^2) - (8\text{m})^2 - (15\text{m})^2}}{2}$$

12) Perimeter of Right Angled Triangle

[Open Calculator !\[\]\(830769b31eeeaca920791081939ff8ba_img.jpg\)](#)

$$\text{fx } P = h + B + \sqrt{h^2 + B^2}$$

$$\text{ex } 40\text{m} = 8\text{m} + 15\text{m} + \sqrt{(8\text{m})^2 + (15\text{m})^2}$$

13) Perimeter of Right Angled Triangle given Hypotenuse, Circumradius and Inradius

[Open Calculator !\[\]\(47734e4656765d20df4fdbd5b7aff048_img.jpg\)](#)

$$\text{fx } P = 2 \cdot r_i + H + 2 \cdot r_c$$

$$\text{ex } 41\text{m} = 2 \cdot 3\text{m} + 17\text{m} + 2 \cdot 9\text{m}$$

14) Perimeter of Right Angled Triangle given Sides

[Open Calculator !\[\]\(41aea2746216b27a6939d696d8e035da_img.jpg\)](#)

$$\text{fx } P = h + B + H$$

$$\text{ex } 40\text{m} = 8\text{m} + 15\text{m} + 17\text{m}$$





Variables Used

- **A** Area of Right Angled Triangle (Square Meter)
- **B** Base of Right Angled Triangle (Meter)
- **h** Height of Right Angled Triangle (Meter)
- **h'** Altitude of Right Angled Triangle (Meter)
- **H** Hypotenuse of Right Angled Triangle (Meter)
- **M_B** Median on Base of Right Angled Triangle (Meter)
- **M_h** Median on Height of Right Angled Triangle (Meter)
- **M_H** Median on Hypotenuse of Right Angled Triangle (Meter)
- **P** Perimeter of Right Angled Triangle (Meter)
- **r_c** Circumradius of Right Angled Triangle (Meter)
- **r_i** Inradius of Right Angled Triangle (Meter)








Constants, Functions, Measurements used

- **Function:** **sqrt**, sqrt(Number)
Square root function
- **Measurement:** **Length** in Meter (m)
Length Unit Conversion 
- **Measurement:** **Area** in Square Meter (m²)
Area Unit Conversion 



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