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Important Formulas of Hexagon

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List of 28 Important Formulas of Hexagon

Important Formulas of Hexagon

Area of Hexagon

1) Area of Hexagon

$$\text{fx } A = \frac{3 \cdot \sqrt{3}}{2} \cdot l_e^2$$

[Open Calculator !\[\]\(de95854c7ee024cfadc48187bbb781b2_img.jpg\)](#)

$$\text{ex } 93.53074\text{m}^2 = \frac{3 \cdot \sqrt{3}}{2} \cdot (6\text{m})^2$$

2) Area of Hexagon given Circumradius

$$\text{fx } A = \frac{3 \cdot \sqrt{3}}{2} \cdot r_c^2$$

[Open Calculator !\[\]\(6a9b39b98eb945faa14c645ec99e4eaa_img.jpg\)](#)

$$\text{ex } 93.53074\text{m}^2 = \frac{3 \cdot \sqrt{3}}{2} \cdot (6\text{m})^2$$

3) Area of Hexagon given Height

$$\text{fx } A = \frac{\sqrt{3}}{2} \cdot h^2$$

[Open Calculator !\[\]\(f1c5da15572e3e09d343161be98f508d_img.jpg\)](#)

$$\text{ex } 86.60254\text{m}^2 = \frac{\sqrt{3}}{2} \cdot (10\text{m})^2$$



4) Area of Hexagon given Perimeter

$$\text{fx } A = \frac{P^2}{8 \cdot \sqrt{3}}$$

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

$$\text{ex } 93.53074\text{m}^2 = \frac{(36\text{m})^2}{8 \cdot \sqrt{3}}$$

Diagonals of Hexagon

5) Long Diagonal of Hexagon

$$\text{fx } d_{\text{Long}} = 2 \cdot l_e$$

[Open Calculator !\[\]\(5361750c22c4e047a52f4eac1ec2d4cc_img.jpg\)](#)

$$\text{ex } 12\text{m} = 2 \cdot 6\text{m}$$

6) Long Diagonal of Hexagon given Circumradius

$$\text{fx } d_{\text{Long}} = 2 \cdot r_c$$

[Open Calculator !\[\]\(b792654f2cef9719eabeb6c5be00811e_img.jpg\)](#)

$$\text{ex } 12\text{m} = 2 \cdot 6\text{m}$$

7) Long Diagonal of Hexagon given Short Diagonal

$$\text{fx } d_{\text{Long}} = \frac{2}{\sqrt{3}} \cdot d_{\text{Short}}$$

[Open Calculator !\[\]\(84f47badaad7772cd95667a7c387a639_img.jpg\)](#)

$$\text{ex } 11.54701\text{m} = \frac{2}{\sqrt{3}} \cdot 10\text{m}$$



8) Short Diagonal of Hexagon

$$\text{fx } d_{\text{Short}} = (\sqrt{3}) \cdot l_e$$

[Open Calculator !\[\]\(e78f798d4ea5c530c9db49e7d26e6b95_img.jpg\)](#)

$$\text{ex } 10.3923\text{m} = (\sqrt{3}) \cdot 6\text{m}$$

9) Short Diagonal of Hexagon given Long Diagonal

$$\text{fx } d_{\text{Short}} = \left(\frac{\sqrt{3}}{2} \right) \cdot d_{\text{Long}}$$

[Open Calculator !\[\]\(05be7c7a8995decd503647c99211f7c2_img.jpg\)](#)

$$\text{ex } 10.3923\text{m} = \left(\frac{\sqrt{3}}{2} \right) \cdot 12\text{m}$$

10) Short Diagonal of Hexagon given Perimeter

$$\text{fx } d_{\text{Short}} = \frac{P}{2 \cdot \sqrt{3}}$$

[Open Calculator !\[\]\(fe3aebe81acea8d45108cd2768939da7_img.jpg\)](#)

$$\text{ex } 10.3923\text{m} = \frac{36\text{m}}{2 \cdot \sqrt{3}}$$



Edge Length of Hexagon

11) Edge Length of Hexagon given Area

$$\text{fx } l_e = \sqrt{\left(\frac{2}{3 \cdot \sqrt{3}}\right) \cdot A}$$

[Open Calculator !\[\]\(74d4806277d7e73349d8e8c0897931e9_img.jpg\)](#)

$$\text{ex } 6.046943\text{m} = \sqrt{\left(\frac{2}{3 \cdot \sqrt{3}}\right) \cdot 95\text{m}^2}$$

12) Edge Length of Hexagon given Height

$$\text{fx } l_e = \frac{h}{\sqrt{3}}$$

[Open Calculator !\[\]\(8bba887393ca45b761e5cb49e755e762_img.jpg\)](#)

$$\text{ex } 5.773503\text{m} = \frac{10\text{m}}{\sqrt{3}}$$

13) Edge Length of Hexagon given Inradius

$$\text{fx } l_e = \frac{2 \cdot r_i}{\sqrt{3}}$$

[Open Calculator !\[\]\(0fb13ad0bfa3d86868cdd3883e5665b3_img.jpg\)](#)

$$\text{ex } 5.773503\text{m} = \frac{2 \cdot 5\text{m}}{\sqrt{3}}$$



14) Edge Length of Hexagon given Width

$$fx \quad l_e = \frac{w}{2}$$

[Open Calculator !\[\]\(d3fb9f94af8b26d1c844efa9a98805b0_img.jpg\)](#)

$$ex \quad 6m = \frac{12m}{2}$$

Height of Hexagon 15) Height of Hexagon

$$fx \quad h = \sqrt{3} \cdot l_e$$

[Open Calculator !\[\]\(73002692dd5e7a64e60946be3158e719_img.jpg\)](#)

$$ex \quad 10.3923m = \sqrt{3} \cdot 6m$$

16) Height of Hexagon given Circumradius

$$fx \quad h = \sqrt{3} \cdot r_c$$

[Open Calculator !\[\]\(104fbf564e2e5a8fbd84f31656d114c7_img.jpg\)](#)

$$ex \quad 10.3923m = \sqrt{3} \cdot 6m$$

17) Height of Hexagon given Inradius

$$fx \quad h = 2 \cdot r_i$$

[Open Calculator !\[\]\(21226b58c700e5231ab98d27101bac58_img.jpg\)](#)

$$ex \quad 10m = 2 \cdot 5m$$



18) Height of Hexagon given Perimeter

$$\text{fx } h = \frac{P}{2 \cdot \sqrt{3}}$$

Open Calculator 

$$\text{ex } 10.3923\text{m} = \frac{36\text{m}}{2 \cdot \sqrt{3}}$$

Perimeter of Hexagon 19) Perimeter of Hexagon

$$\text{fx } P = 6 \cdot l_e$$

Open Calculator 

$$\text{ex } 36\text{m} = 6 \cdot 6\text{m}$$

20) Perimeter of Hexagon given Area

$$\text{fx } P = \sqrt{8 \cdot \sqrt{3} \cdot A}$$

Open Calculator 

$$\text{ex } 36.28166\text{m} = \sqrt{8 \cdot \sqrt{3} \cdot 95\text{m}^2}$$

21) Perimeter of Hexagon given Width

$$\text{fx } P = 3 \cdot w$$

Open Calculator 

$$\text{ex } 36\text{m} = 3 \cdot 12\text{m}$$



Radius of Hexagon

22) Circumradius of Hexagon

$$\text{fx } r_c = \frac{l_e}{1}$$

[Open Calculator !\[\]\(96cc62f861fdd6e50510c0224a756dff_img.jpg\)](#)

$$\text{ex } 6\text{m} = \frac{6\text{m}}{1}$$

23) Circumradius of Hexagon given Height

$$\text{fx } r_c = \frac{h}{\sqrt{3}}$$

[Open Calculator !\[\]\(f95dab70c751fda7d824b8b03650f7aa_img.jpg\)](#)

$$\text{ex } 5.773503\text{m} = \frac{10\text{m}}{\sqrt{3}}$$

24) Circumradius of Hexagon given Width

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

[Open Calculator !\[\]\(e9474ce1d70442456f8fe9c393ea149c_img.jpg\)](#)

$$\text{ex } 6\text{m} = \frac{12\text{m}}{2}$$



25) Inradius of Hexagon

$$\text{fx } r_i = \frac{\sqrt{3}}{2} \cdot l_e$$

[Open Calculator !\[\]\(71ceb62b681518c82e95d615e7265d66_img.jpg\)](#)

$$\text{ex } 5.196152\text{m} = \frac{\sqrt{3}}{2} \cdot 6\text{m}$$

26) Inradius of Hexagon given Circumradius

$$\text{fx } r_i = \frac{\sqrt{3}}{2} \cdot r_c$$

[Open Calculator !\[\]\(fc3a57079704ef1b99671c8cafae23be_img.jpg\)](#)

$$\text{ex } 5.196152\text{m} = \frac{\sqrt{3}}{2} \cdot 6\text{m}$$

Width of Hexagon 27) Width of Hexagon

$$\text{fx } w = 2 \cdot l_e$$

[Open Calculator !\[\]\(d3d0bc9cbc0b5499f7bfafd3278057f7_img.jpg\)](#)

$$\text{ex } 12\text{m} = 2 \cdot 6\text{m}$$

28) Width of Hexagon given Perimeter

$$\text{fx } w = \frac{P}{3}$$

[Open Calculator !\[\]\(c3a92afbfbcda259fe6c9d5eed0857d1_img.jpg\)](#)

$$\text{ex } 12\text{m} = \frac{36\text{m}}{3}$$



Variables Used

- **A** Area of Hexagon (Square Meter)
- **d_{Long}** Long Diagonal of Hexagon (Meter)
- **d_{Short}** Short Diagonal of Hexagon (Meter)
- **h** Height of Hexagon (Meter)
- **l_e** Edge Length of Hexagon (Meter)
- **P** Perimeter of Hexagon (Meter)
- **r_c** Circumradius of Hexagon (Meter)
- **r_i** Inradius of Hexagon (Meter)
- **w** Width of Hexagon (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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