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House Shape Formulas

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List of 10 House Shape Formulas

House Shape

1) Area of House Shape

Open Calculator

fx $$A = (l_{Base} \cdot h_{Wall}) + \left(h_{Roof} \cdot \frac{l_{Base}}{2}\right)$$

ex $$172.5\text{m}^2 = (15\text{m} \cdot 10\text{m}) + \left(3\text{m} \cdot \frac{15\text{m}}{2}\right)$$

2) Base Length of House Shape given Perimeter

Open Calculator

fx $$l_{Base} = P - (2 \cdot h_{Wall}) - (2 \cdot S_{Roof})$$

ex $$14\text{m} = 50\text{m} - (2 \cdot 10\text{m}) - (2 \cdot 8\text{m})$$

3) Diagonal of House Shape

Open Calculator

fx $$d = \sqrt{\left(\frac{l_{Base}}{2}\right)^2 + h^2}$$

ex $$15.00833\text{m} = \sqrt{\left(\frac{15\text{m}}{2}\right)^2 + (13\text{m})^2}$$

4) Diagonal of Rectangle of House Shape

Open Calculator

fx $$d_{Rectangle} = \sqrt{l_{Base}^2 + h_{Wall}^2}$$

ex $$18.02776\text{m} = \sqrt{(15\text{m})^2 + (10\text{m})^2}$$

5) Height of House Shape

Open Calculator

fx $$h = h_{Roof} + h_{Wall}$$

ex $$13\text{m} = 3\text{m} + 10\text{m}$$

6) Perimeter of House Shape

Open Calculator

fx $$P = l_{Base} + (2 \cdot h_{Wall}) + (2 \cdot S_{Roof})$$

ex $$51\text{m} = 15\text{m} + (2 \cdot 10\text{m}) + (2 \cdot 8\text{m})$$

7) Roof Height of House Shape

Open Calculator

fx $$h_{Roof} = \sqrt{\frac{(4 \cdot S_{Roof}^2) - l_{Base}^2}{4}}$$

ex $$2.783882\text{m} = \sqrt{\frac{\left(4 \cdot (8\text{m})^2\right) - (15\text{m})^2}{4}}$$

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8) Roof Side of House Shape given Perimeter

Open Calculator

fx $$S_{Roof} = \frac{P - l_{Base} - (2 \cdot h_{Wall})}{2}$$

ex $$7.5\text{m} = \frac{50\text{m} - 15\text{m} - (2 \cdot 10\text{m})}{2}$$

9) Slope of House Shape

Open Calculator

fx $$\angle_{Slope} = ar\cos\left(\frac{l_{Base}}{2 \cdot S_{Roof}}\right)$$

ex $$20.36413^\circ = ar\cos\left(\frac{15\text{m}}{2 \cdot 8\text{m}}\right)$$

10) Wall Height of House Shape given Perimeter

Open Calculator

fx $$h_{Wall} = \frac{P - l_{Base} - (2 \cdot S_{Roof})}{2}$$

ex $$9.5\text{m} = \frac{50\text{m} - 15\text{m} - (2 \cdot 8\text{m})}{2}$$

Variables Used

- $\angle_{Slope}$ Slope Angle of House Shape *(Degree)*
- **A** Area of House Shape *(Square Meter)*
- **d** Diagonal of House Shape *(Meter)*
- $d_{Rectangle}$ Diagonal of Rectangle of House Shape *(Meter)*
- **h** Height of House Shape *(Meter)*
- h_{Roof} Roof Height of House Shape *(Meter)*
- h_{Wall} Wall Height of House Shape *(Meter)*
- l_{Base} Base Length of House Shape *(Meter)*
- **P** Perimeter of House Shape *(Meter)*
- S_{Roof} Roof Side of House Shape *(Meter)*

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Constants, Functions, Measurements used

- Function: **arcos**, arcos(Number)
  Inverse trigonometric cosine function
- Function: **cos**, cos(Angle)
  Trigonometric cosine 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 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
- L Shape Formulas
- Line Formulas
- N-gon Formulas
- Nonagon Formulas
- Octagon 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
- T Shape Formulas
- Tangential Quadrilateral Formulas
- Trapezoid Formulas
- Tri-equilateral Trapezoid Formulas
- Truncated Square Formulas
- Unicursal Hexagram Formulas
- X Shape Formulas

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