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Heart Shape Formulas

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List of 20 Heart Shape Formulas

Heart Shape

Area of Heart Shape

1) Area of Heart Shape

Open Calculator

fx $$A = \left(1 + \frac{\pi}{4}\right) \cdot l_{e(Square)}^2$$

ex $$178.5398\text{m}^2 = \left(1 + \frac{\pi}{4}\right) \cdot (10\text{m})^2$$

2) Area of Heart Shape given Height

Open Calculator

fx $$A = \left(1 + \frac{\pi}{4}\right) \cdot \left(\frac{h}{\frac{3 \cdot \sqrt{2}}{4} + \frac{1}{2}}\right)^2$$

ex $$164.9305\text{m}^2 = \left(1 + \frac{\pi}{4}\right) \cdot \left(\frac{15\text{m}}{\frac{3 \cdot \sqrt{2}}{4} + \frac{1}{2}}\right)^2$$

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3) Area of Heart Shape given Perimeter

Open Calculator

fx $$A = \left(1 + \frac{\pi}{4}\right) \cdot \left(\frac{P}{2 + \pi}\right)^2$$

ex $$168.8417\text{m}^2 = \left(1 + \frac{\pi}{4}\right) \cdot \left(\frac{50\text{m}}{2 + \pi}\right)^2$$

4) Area of Heart Shape given Width

Open Calculator

fx $$A = \left(1 + \frac{\pi}{4}\right) \cdot \left(\frac{w}{\frac{1}{\sqrt{2}} + 1}\right)^2$$

ex $$177.0564\text{m}^2 = \left(1 + \frac{\pi}{4}\right) \cdot \left(\frac{17\text{m}}{\frac{1}{\sqrt{2}} + 1}\right)^2$$

Edge Length of Square of Heart Shape

5) Edge Length of Square of Heart Shape given Area

Open Calculator

fx $$l_{e(\text{Square})} = \sqrt{\frac{A}{1 + \frac{\pi}{4}}}$$

ex $$10.04081\text{m} = \sqrt{\frac{180\text{m}^2}{1 + \frac{\pi}{4}}}$$

6) Edge Length of Square of Heart Shape given Height

Open Calculator

fx $$l_{e(Square)} = \frac{h}{\frac{3\cdot\sqrt{2}}{4} + \frac{1}{2}}$$

ex $$9.611317\text{m} = \frac{15\text{m}}{\frac{3\cdot\sqrt{2}}{4} + \frac{1}{2}}$$

7) Edge Length of Square of Heart Shape given Perimeter

Open Calculator

fx $$l_{e(Square)} = \frac{P}{2 + \pi}$$

ex $$9.724613\text{m} = \frac{50\text{m}}{2 + \pi}$$

8) Edge Length of Square of Heart Shape given Width

Open Calculator

fx $$l_{e(Square)} = \frac{w}{\frac{1}{\sqrt{2}} + 1}$$

ex $$9.958369\text{m} = \frac{17\text{m}}{\frac{1}{\sqrt{2}} + 1}$$

Height of Heart Shape

9) Height of Heart Shape

Open Calculator

fx $$h = \left(\frac{3 \cdot \sqrt{2}}{4} + \frac{1}{2}\right) \cdot l_{e(Square)}$$

ex $$15.6066\text{m} = \left(\frac{3 \cdot \sqrt{2}}{4} + \frac{1}{2}\right) \cdot 10\text{m}$$

10) Height of Heart Shape given Area

Open Calculator

fx $$h = \left(\frac{3 \cdot \sqrt{2}}{4} + \frac{1}{2}\right) \cdot \sqrt{\frac{A}{1 + \frac{\pi}{4}}}$$

ex $$15.67029\text{m} = \left(\frac{3 \cdot \sqrt{2}}{4} + \frac{1}{2}\right) \cdot \sqrt{\frac{180\text{m}^2}{1 + \frac{\pi}{4}}}$$

11) Height of Heart Shape given Perimeter

Open Calculator

fx $$h = \left(\frac{3 \cdot \sqrt{2}}{4} + \frac{1}{2}\right) \cdot \frac{P}{2 + \pi}$$

ex $$15.17682\text{m} = \left(\frac{3 \cdot \sqrt{2}}{4} + \frac{1}{2}\right) \cdot \frac{50\text{m}}{2 + \pi}$$

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12) Height of Heart Shape given Width

Open Calculator

fx $$h = \left(\frac{3 \cdot \sqrt{2}}{4} + \frac{1}{2}\right) \cdot \frac{w}{\frac{1}{\sqrt{2}} + 1}$$

ex $$15.54163\text{m} = \left(\frac{3 \cdot \sqrt{2}}{4} + \frac{1}{2}\right) \cdot \frac{17\text{m}}{\frac{1}{\sqrt{2}} + 1}$$

Perimeter of Heart Shape

13) Perimeter of Heart Shape

Open Calculator

fx $$P = (2 + \pi) \cdot l_{e(\text{Square})}$$

ex $$51.41593\text{m} = (2 + \pi) \cdot 10\text{m}$$

14) Perimeter of Heart Shape given Area

Open Calculator

fx $$P = (2 + \pi) \cdot \sqrt{\frac{A}{1 + \frac{\pi}{4}}}$$

ex $$51.62575\text{m} = (2 + \pi) \cdot \sqrt{\frac{180\text{m}^2}{1 + \frac{\pi}{4}}}$$

15) Perimeter of Heart Shape given Height

Open Calculator

fx $$P = (2+\pi)\cdot\frac{h}{\frac{3}{4}\cdot\sqrt{2}+\frac{1}{2}}$$

ex $$49.41748\text{m} = (2+\pi)\cdot\frac{15\text{m}}{\frac{3}{4}\cdot\sqrt{2}+\frac{1}{2}}$$

16) Perimeter of Heart Shape given Width

Open Calculator

fx $$P = (2+\pi)\cdot\frac{w}{\frac{1}{\sqrt{2}}+1}$$

ex $$51.20188\text{m} = (2+\pi)\cdot\frac{17\text{m}}{\frac{1}{\sqrt{2}}+1}$$

Width of Heart Shape

17) Width of Heart Shape

Open Calculator

fx $$w = \left(\frac{1}{\sqrt{2}}+1\right)\cdot l_{e(\text{Square})}$$

ex $$17.07107\text{m} = \left(\frac{1}{\sqrt{2}}+1\right)\cdot 10\text{m}$$

18) Width of Heart Shape given Area

Open Calculator

fx $$w = \left(\frac{1}{\sqrt{2}} + 1\right) \cdot \sqrt{\frac{A}{1 + \frac{\pi}{4}}}$$

ex $$17.14073\text{m} = \left(\frac{1}{\sqrt{2}} + 1\right) \cdot \sqrt{\frac{180\text{m}^2}{1 + \frac{\pi}{4}}}$$

19) Width of Heart Shape given Height

Open Calculator

fx $$w = \left(\frac{1}{\sqrt{2}} + 1\right) \cdot \frac{h}{\frac{3 \cdot \sqrt{2}}{4} + \frac{1}{2}}$$

ex $$16.40754\text{m} = \left(\frac{1}{\sqrt{2}} + 1\right) \cdot \frac{15\text{m}}{\frac{3 \cdot \sqrt{2}}{4} + \frac{1}{2}}$$

20) Width of Heart Shape given Perimeter

Open Calculator

fx $$w = \left(\frac{1}{\sqrt{2}} + 1\right) \cdot \frac{P}{2 + \pi}$$

ex $$16.60095\text{m} = \left(\frac{1}{\sqrt{2}} + 1\right) \cdot \frac{50\text{m}}{2 + \pi}$$

Variables Used

- **A** Area of Heart Shape *(Square Meter)*
- **h** Height of Heart Shape *(Meter)*
- $l_{e(Square)}$ Edge Length of Square of Heart Shape *(Meter)*
- **P** Perimeter of Heart Shape *(Meter)*
- **w** Width of Heart Shape *(Meter)*

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Constants, Functions, Measurements used

- Constant: **pi**, 3.14159265358979323846264338327950288
  Archimedes' constant
- Function: **sqrt**, sqrt(Number)
  Square root function
- Measurement: **Length** in Meter (m)
  Length Unit Conversion
- Measurement: **Area** in Square Meter (m²)
  Area 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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