Important Cardioid Formulas PDF

Formulas
Examples
with Units

List of 12
Important Cardioid Formulas

1) Area of Cardioid Formulas

1.1) Area of Cardioid Formula

Evaluate Formula

Formula

$$A = \frac{3}{2} \cdot \pi \cdot D^2$$

Example with Units

$$471.2389\,\text{m}^2 = \frac{3}{2} \cdot 3.1416 \cdot 10\,\text{m}^2$$

1.2) Area of Cardioid given Perimeter Formula

Evaluate Formula

Formula

$$A = \frac{3}{128} \cdot \pi \cdot P^2$$

Example with Units

$$471.2389\,\text{m}^2 = \frac{3}{128} \cdot 3.1416 \cdot 80\,\text{m}^2$$

1.3) Area of Cardioid given Radius of Circle Formula

Evaluate Formula

Formula

$$A = 6 \cdot \pi \cdot r^2$$

Example with Units

$$471.2389\,\text{m}^2 = 6 \cdot 3.1416 \cdot 5\,\text{m}^2$$

2) Diameter of Circle of Cardioid Formulas

2.1) Diameter of Circle of Cardioid Formula

Evaluate Formula

Formula

$$D = 2 \cdot r$$

Example with Units

$$10\,\text{m} = 2 \cdot 5\,\text{m}$$

2.2) Diameter of Circle of Cardioid given Area Formula

Evaluate Formula

Formula

$$D = \sqrt{\frac{A}{\frac{3}{2} \cdot \pi}}$$

Example with Units

$$10.3006\,\text{m} = \sqrt{\frac{500\,\text{m}^2}{\frac{3}{2} \cdot 3.1416}}$$

2.3) Diameter of Circle of Cardioid given Perimeter Formula

Evaluate Formula

Formula

$$D = \frac{P}{8}$$

Example with Units

$$10\,\text{m} = \frac{80\,\text{m}}{8}$$

3) Perimeter of Cardioid Formulas

3.1) Perimeter of Cardioid Formula

Evaluate Formula

Formula

$$P = 8 \cdot D$$

Example with Units

$$80\,\text{m} = 8 \cdot 10\,\text{m}$$

3.2) Perimeter of Cardioid given Area Formula

Evaluate Formula

Formula

$$P = 8 \cdot \sqrt{\frac{A}{\frac{3}{2} \cdot \pi}}$$

Example with Units

$$82.4052\,\text{m} = 8 \cdot \sqrt{\frac{500\,\text{m}^2}{\frac{3}{2} \cdot 3.1416}}$$

3.3) Perimeter of Cardioid given Radius of Circle Formula

Evaluate Formula

Formula

$$P = 16 \cdot r$$

Example with Units

$$80\,\text{m} = 16 \cdot 5\,\text{m}$$

4) Radius of Circle of Cardioid Formulas

4.1) Radius of Circle of Cardioid Formula

Evaluate Formula

Formula

$$r = \frac{D}{2}$$

Example with Units

$$5\,\text{m} = \frac{10\,\text{m}}{2}$$

4.2) Radius of Circle of Cardioid given Area Formula

Evaluate Formula

Formula

$$r = \sqrt{\frac{A}{6 \cdot \pi}}$$

Example with Units

$$5.1503\,\text{m} = \sqrt{\frac{500\,\text{m}^2}{6 \cdot 3.1416}}$$

4.3) Radius of Circle of Cardioid given Perimeter Formula

Evaluate Formula

Formula

$$r = \frac{P}{16}$$

Example with Units

$$5\,\text{m} = \frac{80\,\text{m}}{16}$$

Variables used in list of Cardioid Formulas above

- **A** Area of Cardioid *(Square Meter)*
- **D** Diameter of Circle of Cardioid *(Meter)*
- **P** Perimeter of Cardioid *(Meter)*
- **r** Radius of Circle of Cardioid *(Meter)*

Constants, Functions, Measurements used in list of Cardioid Formulas above

- constant(s): **pi**, 3.14159265358979323846264338327950288 *Archimedes' constant*
- 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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