

Important Equilateral Square Pyramid Formulas PDF



Formulas Examples with Units

List of 10 Important Equilateral Square Pyramid Formulas

1) Edge Length of Equilateral Square Pyramid given Height Formula ↻

Formula

$$l_e = h \cdot \sqrt{2}$$

Example with Units

$$9.8995\text{ m} = 7\text{ m} \cdot \sqrt{2}$$

Evaluate Formula ↻

2) Edge Length of Equilateral Square Pyramid given Surface Area Formula ↻

Formula

$$l_e = \left(\frac{\text{TSA}}{1 + \sqrt{3}} \right)^{\frac{1}{2}}$$

Example with Units

$$9.9412\text{ m} = \left(\frac{270\text{ m}^2}{1 + \sqrt{3}} \right)^{\frac{1}{2}}$$

Evaluate Formula ↻

3) Edge Length of Equilateral Square Pyramid given Volume Formula ↻

Formula

$$l_e = \left(\frac{6 \cdot V}{\sqrt{2}} \right)^{\frac{1}{3}}$$

Example with Units

$$9.9901\text{ m} = \left(\frac{6 \cdot 235\text{ m}^3}{\sqrt{2}} \right)^{\frac{1}{3}}$$

Evaluate Formula ↻

4) Height of Equilateral Pyramid given TSA Formula ↻

Formula

$$h = \left(\frac{1}{\sqrt{2}} \right) \cdot \left(\frac{\text{TSA}}{1 + \sqrt{3}} \right)^{\frac{1}{2}}$$

Example with Units

$$7.0295\text{ m} = \left(\frac{1}{\sqrt{2}} \right) \cdot \left(\frac{270\text{ m}^2}{1 + \sqrt{3}} \right)^{\frac{1}{2}}$$

Evaluate Formula ↻

5) Height of Equilateral Square Pyramid Formula ↻

Formula

$$h = \frac{l_e}{\sqrt{2}}$$

Example with Units

$$7.0711\text{ m} = \frac{10\text{ m}}{\sqrt{2}}$$

Evaluate Formula ↻

6) Height of Equilateral Square Pyramid given Volume Formula ↻

Formula

$$h = \left(\frac{3 \cdot V}{3} \right)^{\frac{1}{3}}$$

Example with Units

$$6.171\text{ m} = \left(\frac{3 \cdot 235\text{ m}^3}{3} \right)^{\frac{1}{3}}$$

Evaluate Formula ↻



7) Total Surface Area of Equilateral Square Pyramid Formula

Formula

$$TSA = (1 + \sqrt{3}) \cdot l_e^2$$

Example with Units

$$273.2051 \text{ m}^2 = (1 + \sqrt{3}) \cdot 10 \text{ m}^2$$

Evaluate Formula 

8) Volume of Equilateral Square Pyramid Formula

Formula

$$V = \frac{\sqrt{2}}{6} \cdot l_e^3$$

Example with Units

$$235.7023 \text{ m}^3 = \frac{\sqrt{2}}{6} \cdot 10 \text{ m}^3$$

Evaluate Formula 

9) Volume of Equilateral Square Pyramid given Height Formula

Formula

$$V = \left(\frac{2}{3}\right) \cdot h^3$$

Example with Units

$$228.6667 \text{ m}^3 = \left(\frac{2}{3}\right) \cdot 7 \text{ m}^3$$

Evaluate Formula 

10) Volume of Equilateral Square Pyramid given Surface Area Formula

Formula

$$V = \left(\frac{\sqrt{2}}{6}\right) \cdot \left(\frac{TSA}{1 + \sqrt{3}}\right)^{\frac{3}{2}}$$

Example with Units

$$231.5668 \text{ m}^3 = \left(\frac{\sqrt{2}}{6}\right) \cdot \left(\frac{270 \text{ m}^2}{1 + \sqrt{3}}\right)^{\frac{3}{2}}$$

Evaluate Formula 



Variables used in list of Equilateral Square Pyramid Formulas above

- **h** Height of Equilateral Square Pyramid (Meter)
- **l_e** Edge Length of Equilateral Square Pyramid (Meter)
- **TSA** Total Surface Area of Equilateral Square Pyramid (Square Meter)
- **V** Volume of Equilateral Square Pyramid (Cubic Meter)

Constants, Functions, Measurements used in list of Equilateral Square Pyramid Formulas above

- **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:** **Volume** in Cubic Meter (m³)
Volume Unit Conversion 
- **Measurement:** **Area** in Square Meter (m²)
Area Unit Conversion 



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