ptc
f1:=250 Hz
λ:=v/f1
λ=1220 mm
v (m/s) L (cm)
400 80.5
405 92
420 95
λ:=2·L=[1.61 1.84 1.9] m
w(t)=Σ_{n=1}^{N} A_n·cos(ω_n·t)
ω_n=2·π·n·f
L:=1/2
L=61
112

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Compare our free and full versions

PTC Mathcad Prime is the industry standard for engineering calculations software, and buying a license gets you access to all the latest product developments and full product functionality.

PTC Mathcad Express is our free, unlicensed version that only has basic functionality. Mathcad Express is not authorized for commercial use. The table below shows what features you'll miss out on if you don't upgrade to the full version.

	Mathcad Express	Prime 12
PTC Mathcad Capabilities	**PTC Mathcad Express**	**PTC Mathcad Prime (Full License)**
Usability		
Write equations using natural math notation	✓	✓
Spell Check	•	✓
Internal and External Hyperlinks in Text	•	✓
Redefinition Warnings	•	✓
Calculate Now in Manual Calculation Mode	•	✓
Required PTC Watermark and Marketing Start Page	✓	•
Basic Math		
Automatic update of calculations	✓	✓
Algebra and trigonometry operators and functions	✓	✓
Unit Support	✓	✓
Advanced Math		
Programming	•	✓
Solve and optimize systems of linear, non-linear, and differential equations	•	✓
Evaluate and analyze expressions and functions symbolically	•	✓
Advanced Engineering Mathematics: e.g. Design of Experiments, Differential Equations, Solving Regression	•	✓
Advanced Numeric Functions: e.g. Fourier Transforms, Signal Processing, Statistics & Data Analysis	•	✓
Choice of solving algorithms, MultiStart, and Optimize for applicable functions	•	✓
Custom Unit Systems	•	✓

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PTC Mathcad Capabilities	Mathcad Express PTC Mathcad Express	Prime 12 PTC Mathcad Prime (Full License)
Documentation		
Comprehensive documentation	✓	✓
Text Styles	•	✓
Standardize engineering processes using templates	•	✓
Copy Multiple Worksheet Regions to a Word Document	•	✓
Content Protection	•	✓
Equation Wrapping	•	✓
Custom Color Picker	•	✓
Custom Margin, Header & Footer Sizes with custom page numbering, Larger Page Size options	•	✓
Worksheet Background Color Options	•	✓
Plotting		
X-Y plots	Basic Features	✓
Advanced plot types: Polar, Contour, 3D	•	✓
Input/Output		
API Guide	✓	✓
Include worksheet region	•	✓
Excel Component	•	✓
Basic Combo-box Input Control	•	✓
Advanced scripted controls (Python, VBScript, JScript)	•	✓
Insert Object	•	✓

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