

# CANDIDATE INFORMATION

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## CERTIFIED MATLAB ASSOCIATE EXAM

Earning this credential validates your proficiency with MATLAB and can help you to enhance your credibility and accelerate your career. Mastery at this level also prepares you for the next challenging level of certification, *Certified MATLAB Professional*.

## PREREQUISITES

To properly prepare, we recommend taking the following MathWorks training course: *MATLAB Fundamentals*

## SAMPLE QUESTIONS

View *sample questions* representative of the format and difficulty level expected on the exam.

# PREPARING FOR YOUR EXAM

## OBJECTIVES TESTED

MathWorks training courses provide coverage across these objectives as well as exercises if additional learning and practice are necessary.

### Working with the MATLAB User Interface

- Identify the core components of the MATLAB desktop environment and explain their purpose
- Interactively import data into the MATLAB environment
- Examine data variables using the Variable Editor
- Create and customize data plots using Plot Tools
- Save and load MATLAB variables to and from disk interactively

### Variables and Commands

- Issue MATLAB commands in the Command Window
- Create new variables, and apply arithmetic operations and functions to existing variables
- Create text variables and arrays of text
- Create two-dimensional plots of vector data
- Obtain help on MATLAB commands and navigate the documentation browser
- Label plots and adjust plot elements such as line style and color
- Use the Command History and the MATLAB Editor to write, save, and execute script files
- Use code sections to partition large scripts into smaller parts
- Run a script file from the Command Window

### Analysis and Visualization with Vectors

- Create vector variables, and apply functions and array operations to vectors
- Access and manipulate the data stored in vectors
- Make multiple plots on the same axes and within separate windows
- Write comments in code files to provide user help and increase program readability
- Publish script files to a variety of file formats

### Analysis and Visualization with Matrices

- Create matrix variables
- Access and manipulate the data stored in matrices using row-column indexing
- Create larger array variables by combining smaller elements and using matrix-creation functions
- Perform matrix and array (element-wise) operations
- Compute basic descriptive statistics for a matrix of data
- Distinguish between the behavior of mathematical and statistical functions in MATLAB
- Plot columns of a matrix as independent variables
- Visualize matrix data in two and three dimensions

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## **ADDITIONAL INFORMATION**

For additional information regarding the MathWorks Certification program, visit [mathworks.com/certification](http://mathworks.com/certification)

### **Dates and Times**

- Create variables to represent dates and time durations
- Perform arithmetic operations on dates and durations.
- Extract components of dates and durations as numeric variables
- Modify the format used to display and plot dates and durations

### **Tables of Data**

- Import data into a MATLAB table
- Access and manipulate the data stored in a table

### **Conditional Data Selection**

- Perform logical operations on variables and create logical variables
- Access and manipulate the data stored in variables using logical indexing
- Perform logical operations on dates and durations

### **Analyzing Data from Files**

- Import data from commonly used file formats programmatically
- Convert between numeric and character data types
- Plot a function by generating data points for a given range
- Create textual displays and plot annotations using dynamically calculated values
- Customize plot elements such as line width and axis tick labels
- Remove or replace incorrect or missing values in a data set
- Combine multiple MATLAB function calls to perform specific data-analysis tasks, such as polynomial interpolation

### **Flow Control**

- Create script files that obtain user input and display output
- Use loops and logical branching in code files for automation and decision making

### **Writing Functions**

- Create and call a function file
- Set the MATLAB path to ensure a code file is visible
- Determine which file or variable is being accessed when a MATLAB command is issued
- Use diagnostic tools to find and correct problems in code files
- Store, access, and manipulate data in a structure