

```
» 200 / 7
ans =
28.5714
```

The value in `ans` can be used in later calculations, but be careful! Every time a new expression without an equal sign is evaluated, the value saved in `ans` will be overwritten.

```
» » ans * 6
ans =
171.4286
```

The value stored in `ans` is now 171.4286, not 28.5714.

If you want to save a calculated value and reuse it later, be sure to assign it to a specific name instead of using the default name `ans`.

Programming Details

If you want to reuse the result of a calculation in MATLAB, be sure to include a variable name to store the result. Otherwise, the result will be overwritten the next time that you perform a calculation.

Quiz 1.1

This quiz provides a quick check to see if you have understood the concepts introduced in Chapter 1. If you have trouble with the quiz, reread the sections, ask your instructor, or discuss the material with a fellow student. The answers to this quiz are found in the back of the book.

1. What is the purpose of the MATLAB Command Window? The Edit Window? The Figure Window?
2. List the different ways that you get help in MATLAB.
3. What is a workspace? How can you determine what is stored in a MATLAB workspace?
4. How can you clear the contents of a workspace?
5. The distance traveled by a ball falling in the air is given by the equation

$$x = x_0 + v_0 t + \frac{1}{2} a t^2$$

Use MATLAB to calculate the position of the ball at time $t = 5$ s if $x_0 = 10$ m, $v_0 = 15$ m/s, and $a = -9.81$ m/sec².

6. Suppose that $x = 3$ and $y = 4$. Use MATLAB to evaluate the following expression:

$$\frac{x^2 y^3}{(x - y)^2}$$

The following questions are intended to help you become familiar with MATLAB tools.

7. Execute the M-files `calc_area.m` and `sin_x.m` in the Command Window (these M-files are available from the book's website). Then use the Workspace Browser to determine what variables are defined in the current workspace.
8. Use the Array Editor to examine and modify the contents of variable `x` in the workspace. The type the command `plot(x,y)` in the Command Window. What happens to the data displayed in the Figure Window?

1.5 Summary

In this chapter, we learned about the MATLAB integrated development environment (IDE). We learned about basic types of MATLAB windows, the workspace and how to get on-line help.

The MATLAB desktop appears when the program is started. It integrates many of the MATLAB tools in single location. These tools include the Command Window, the Command History Window, the Start button, the Workspace Browser, the Array Editor, and the Current Directory viewer. The Command Window is the most important of the windows. It is the one in which all commands are typed and results are displayed.

The Edit/Debug window is used to create or modify M-files. It displays contents of the M-file with the contents of the file color-coded according to function: comments, keywords, strings, and so forth. This window can be docked to the desktop, but by default it is independent.

The Figure Window is used to display graphics. A MATLAB user can get help by using either the Help Browser or the Command-line help functions `help` and `lookfor`. The Help Browser allows access to the entire MATLAB documentation set. The command-line `help` displays help about a specific function in the Command Window. Unfortunately, you must know the name of the function in order to get help at it. The function `lookfor` searches for a given string in the first comment line of every MATLAB function and displays any matches.

When a user types a command in the Command Window, MATLAB searches for that command in the directories specified in the MATLAB path. It executes the *first* M-file in the path that matches the command, and any fu