function that changes rapidly. In the last example a small spacing of 0.01 produced the plot that is shown in Figure 5-4. However, if the same function in the same domain is plotted with much larger spacing—for example, 0.3—the plot that is obtained, shown in Figure 5-5, gives a distorted picture of the function.

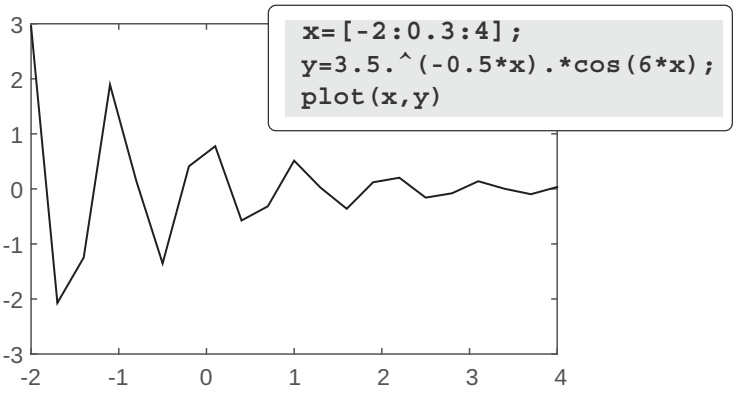

Figure 5-5: A plot of the function $y = 3.5^{-0.5x}\cos(6x)$ with large spacing.

Note also that in Figure 5-4 the plot is shown with the Figure Window, while in Figure 5-5 only the plot is shown. The plot can be copied from the Figure Window (in the **Edit** menu, select **Copy Figure**) and then pasted into other applications.

5.2 *THE* `fplot` *COMMAND*

The `fplot` command plots a function with the form $y = f(x)$ between specified limits. The command has the form:

```
fplot(function,limits,'line specifiers')
```

The function to be plotted.

The domain of x typed as two-element vector.

Specifiers that define the type and color of the line and markers (optional).

`'function':` The function should be typed in the form of an anonymous function (covered in detail in Section 7.8). The form of an anonymous function is: `@ (x) f(x)`. For example, if the function $f(x) = 8x^2 + 5\cos(x)$ is to be plotted, it is typed as: `@ (x) 8*x.^2+5*cos(x)`. The functions can include MATLAB built-in functions and functions that are created by the user (covered in Chapter 7).

- The function should be typed using element-by-element operations, and can include previously defined variables. For example, in the function above it is pos-