

CHAPTER 3

DECLARING MEMORY LOCATIONS

The answers for the Declaring Memory Locations section are located at the end of the section.

1. A program needs to store a person's height and weight in variables. The height may have a decimal place. The width will always be a whole number. Write the appropriate C++ statements to declare and initialize the variables.
2. A program needs to store the beginning inventory amount, the number sold, the number purchased, and the ending inventory amount. The amounts will always be whole numbers. Write the appropriate C++ statements to declare and initialize the variables.
3. WM-Figure 3-1 shows the solution for the area calculation problem. Write the appropriate C++ statements to declare and initialize the variables. The length and width may contain a decimal place.

Input	Processing	Output
length width	Processing items: none Algorithm: 1. enter the length and width 2. calculate the area by multiplying the length by the width 3. display the area	area

WM-Figure 3-1 Solution for the area calculation problem

4. WantMore Figure 3-2 shows the solution for the new price problem. Write the appropriate C++ statements to declare and initialize the variables. The current price will contain a decimal place. Create a named constant for the increase percentage.

Input	Processing	Output
current price increase percentage (15%)	Processing items: increase amount Algorithm: 1. enter the current price 2. calculate the increase amount by multiplying the current price by the increase percentage 3. calculate the new price by adding the increase amount to the current price 4. display the new price	new price

WM-Figure 3-2 Solution for the new price problem

5. WantMore Figure 3-3 shows the solution for the total price problem. Write the appropriate C++ statements to declare and initialize the variables. The diameter and price per foot may contain a decimal place. Create a named constant for the pi value.

Input	Processing	Output
diameter price per foot pi (3.14)	Processing items: circumference Algorithm: 1. enter the diameter and price per foot 2. calculate the circumference by multiplying the diameter by pi 3. calculate the total price by multiplying the circumference by the price per foot 4. display the total price	total price

WM-Figure 3-3 Solution for the total price problem

ANSWERS FOR THE DECLARING MEMORY LOCATIONS SECTION

- ```
double height = 0.0;
int width = 0;
```
- ```
int beginInv = 0;  
int sold = 0;  
int purchased = 0;  
int endInv = 0;
```
- ```
double length = 0.0;
double width = 0.0;
double area = 0.0;
```
- ```
double currentPrice = 0.0;  
double increaseAmt = 0.0;  
double newPrice = 0.0;  
const double INCREASE_RATE = .15;
```
- ```
double totalPrice = 0.0;
double circumference = 0.0;
double diameter = 0.0;
double pricePerFoot = 0.0;
const double PI = 3.14;
```