# Questions about Chapter 3

1. Assume value is an integer variable. If the user enters 3.14 in response to the following programming statement. What will be stored in value?

cin >> value;

1. 3.14
2. A program has the following variable definitions.

long miles;

int feet;

float inches;

Write one cin statement that reads a value into each of these variables.

cin >> miles >> feet >> inches;

1. The following program will run, but the user will have difficulty understanding what to do. How would you improve the program?

#include <iostream>

using namespace std;

int main() {

double first, second, product;

// cout << “Enter two numbers separated by a space:\n”;

cin >> first >> second;

product = first \* second;

cout << product;

return 0;

}

1. Complete the following program skeleton so it asks for the user’s weight (in pound) and displays the equivalent weight in kilogram.

#include <iostream>

using namespace std;

int main() {

double pounds, kilograms;

cout << “Enter your weight in pounds:\n”;

cin >> pounds;

kilograms = pounds / 2.2;

cout << “That’s “ << kilograms << “kg.”;

return 0;

}

1. Complete the table below by writing the value of expression in the “Value”

Column.

|  |  |
| --- | --- |
| Expression | Value |
| (6 + 17) % (2 - 1) | 0 |
| (9 - 3) \* (6 + 9) / 3 | 30 |

1. Write C++ expressions for the following expressions:

a = 2b +4c // int a = 2 \* b + 4 \* c

y = x2 // int y = x \* x

1. Study the following program and complete the table

#include <iostream>

#include <cmath>

using namespace std;

int main() {

double value1, value2, value3;

cout << "Enter a number: ";

cin >> value1;

value2 = 2 \* pow(value1, 2.0);

value3 = 3 + value2 / 2 + 1;

cout << value2 << endl;

return 0;

}

|  |  |
| --- | --- |
| If the User Enters. . . | The program Will Display What Number (Stored in value3)? |
| 2 | 8 |
| 5 | 50 |
| 4.3 | 36.98 |
| 6 | 72 |

1. Assume the following variable definition:

int a = 5, b = 15;

double x = 3.4, z = 9.1;

What are values of the following expressions

1. b / a // 3
2. static\_cast<double>(b) / a; // 3.0
3. static\_cast <int>(x) \* static\_cast<int>(z). // 27
4. What will the following program display?

#include <iostream>

#include <cmath>

using namespace std;

int main() {

int integer1, integer2;

double result;

integer1 = 19;

integer2 = 2;

result = integer1 / integer2;

cout << result << endl;

result = static\_cast<double>(integer1) / integer2;

cout << result << endl;

result = static\_cast<double>(integer1 / integer2);

cout << result << endl;

return 0;

}

Output:

9

9.5

9

1. Write statements using combined assignment operators to perform the following:
2. Add 6 to x. // x += 6
3. Subtract 4 from amount. // amount -= 4
4. Multiply y by 4. // y \*= 4
5. Divide total by 27. // total /= 27
6. Store in x the remainder of x divided by 7. // x = x % 7