1. Every complete statement ends with a **; (Semicolon)**.

2. To use cout statements you must include the **#include <iostream>** file in your program.

3. Every C++ program must have a function named **int main ()**.

4. Preprocessor directives begin with a **# (Pound/Hashtag)**.

5. A group of statements, such as the body of a function, must be enclosed in **{} (Wiggly line, Squiggly brackets or whatever you want to call them)**.

6. 72, 'A', and "Hello World" are all examples of **Variables, Literals and Assignment statements**.  
  
7. 978.65 × 1012 would be written in E notation as **9.7865E12**.   
  
8. The character literal 'A' requires **ONE** byte(s) of memory, whereas the string  
literal "A" requires **TWO** byte(s).   
  
9. Which of the following are not valid assignment statements?

A) total = 9;   
**B) 72 = amount;**   
C) yourAge = myAge;

10. If the variable letter has been defined as a char variable, which of the following are not valid assignment statements?

**A) letter = w;**   
B) letter = 'w';   
**C) letter = "w";**

11. Which of the following are not valid cout statements?

A) cout << "Hello" << endl;   
**B) cout << "Hello" << \n;   
C) cout << Hello;**

12. Which of the following are not valid cout statements?

A) cout << "Hello world";   
**B) cout << Hello world;**   
C) cout << "Hello" << " world";

13. Assume x = 4, y = 7, and z = 2. What value will be stored in integer variable result by each of the following statements?

A) result = x + y; = **11**  
B) result = y \* 2; = **14**  
C) result = y / z; = **1 (The answer is 1.75 but it is being stored as an integer and not a double so everything after the . is removed)**

14. Assume x = 2.5, y = 7.0, and z = 3. What value will be stored in integer variable result by each of the following statements?

A) result = x + y; = **9**  
B) result = y \* 2; = **14**  
C) result = y / z; = **2**

15. Write a C++ statement that defines the double variables temp, weight, and height all in the same statement.

**#include <iostream>  
 using namespace std;**

**int main ()**

**{**

**double temp, weight, height;  
cin >> temp;  
cin >> weight;  
cin >> height;  
cout << “You are weird looking! ” << temp; << weight; <<height; <<endl;  
cin.get ();  
 return 0;  
 }**

16. Write a C++ statement that defines the int variables months, days, and years all in the same statement, with months initialized to 2 and years initialized to 3.

**#include <iostream>  
 using namespace std;**

**int main ()**

**{**

**int months = 2;  
int days;  
int years = 3;  
cin >> days;  
cout << “now it stinks! ” << days; << months; <<years; <<endl;  
cin.get ();  
 return 0;  
 }**

17. Write assignment statements that perform the following operations with int variable i, double variables d1 and d2, and char variable c.

A) Add 2 to d1 and store the result in d2.   
**d2 = d1 + 2;**  
B) Multiply d2 times 4 and store the result in d1.   
**d1 = d2 \* 4;**  
C) Store the character 'K' in c.   
**char c = ‘K’;**  
D) Store the ASCII code for the character 'K' in i.   
**char i;**  
**i = 75;**  
E) Subtract 1 from i and store the result back in i.  
**char i;  
i = 75;**  
**i = i – 1;**  
  
18. Write assignment statements that perform the following operations with int variable i, double variables d1 and d2, and char variable c.

A) Subtract 8.5 from d2 and store the result in d1.   
**d1 = d2 – 8.5;**  
B) Divide d1 by 3.14 and store the result in d2.   
**d2 = d1 / 3.14;**  
C) Store the ASCII code for the character 'F' in c.   
**char c;  
c = 70;**  
D) Add 1 to i and store the new value back in i.   
**i = i + 1;**  
E) Add d1 to the current value of d2 and store the result back in d2 as its new value.  
**d2 = d1 + d2;**

19. Modify the following program segment so it prints two blank lines between each line of text.

cout << "Two mandolins like creatures in the**\n\n**";  
cout << "dark**\n\n**";  
cout << "Creating the agony of ecstasy.**\n\n**";  
cout << " - George Barker" << endl;

20. Rewrite the follow statement to use the newline escape character, instead of an endl, each time subsequent output is to be displayed on a new line.

cout << "L" << endl << "E" << endl << "A" << endl

<< "F" << endl;

**cout << “L\n” << “E\n” << “A\n” << “F” << endl;**

25.

What will the following programs print on the screen?

A) #include <iostream>   
using namespace std;   
int main()   
{

int freeze = 32, boil = 212; freeze = 0; boil = 100;   
cout << freeze << endl << boil << endl;   
return 0;  
}

**This program returns the values 0 and 100, the first two freeze and boil ints are not used**

B) #include <iostream>

using namespace std;

int main ()

{

int x = 0, y = 2;

x = y \* 4;

cout << x << endl << y << endl;

return 0;

}

**This program returns the values of 8 for x and 2 for y**

C)

#include <iostream>  
using namespace std;

int main ()

{

cout << “I am the incredible”;  
cout << “computing \nmachine”;  
cout << “\nand I will \namaze \n”;  
cout << “you. \n”;  
return 0;

}

**This program returns:  
  
I am the incrediblecomputing**

**machine**

**and I will**

**amaze**

**you**

26.

A) #include <iostream>

using namespace std;

int main ()

{

cout << "Be careful!\n";

cout << "This might /n be a trick ";

cout << "question.\n";

return 0;

}

**This program returns:**

**Be careful!**

**This might /n be a trick question.**

**There is an issue with the /n as it is not creating a new line as it was probably intended. Since the questions did not say to fix the errors I left it so it would print out the error.**

B) #include <iostream>

using namespace std;

int main ()

{

int a, x = 23;

a = x % 2;

cout << x << endl << a << endl;

return 0;

}

**This program returns the values 23 for x and 1 for a**

27. Find all the errors

#include iostream  
using namespace std;

int main ();  
}

int a, b, c // Three integers  
a = 3  
b = 4  
c = a + b  
Cout < "The value of c is %d" < C;  
return 0;

{

**It will be easier to just rewrite the code the correct way because it is so messed up that it would take longer to repair than to just rewrite, so here is the correct way to write that code. New code below that works.**

**#include <iostream>  
using namespace std;**

**int main ()  
{**

**int a = 3;  
 int b = 4;  
 int c;**

**c = a + b;**

**cout << "The value of c is " << c << endl;**

**}**

Programming challenges 2, 8 & 10:

2. The East Coast sales division of a company generates 62 percent of total sales. Based on that percentage, write a program that will predict how much the East Coast division will generate if the company has $4.6 million in sales this year. Display the result on the screen.

8. In the United States, land is often measured in square feet. In many other countries it is measured in square meters. One acre of land is equivalent to 43,560 square feet. A square meter is equivalent to 10.7639 square feet. Write a program that computes and displays the number of square feet and the number of square meters in ¼ acre of land.

10. Write a program that displays the following information, each on a separate line:

Your name  
Your Address, with city, state and zip code  
Your telephone number  
Your college major

Use only a single cout statement to display all the information.