

## Chapter Three

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### MULTIPLE CHOICE

1. The \_\_\_\_\_ causes a program to wait until information is typed at the keyboard and the Enter key is pressed.
  - a. Output stream
  - b. `cin` object
  - c. `cout` object
  - d. Preprocessor
  - e. None of the above

ANS: B

2. The \_\_\_\_\_ operator always follows the `cin` object, and the \_\_\_\_\_ operator follows the `cout` object.
  - a. binary, unary
  - b. conditional, binary
  - c. `>>`, `<<`
  - d. `<<`, `>>`
  - e. None of the above

ANS: C

3. In any program that uses the `cin` object, you must include the \_\_\_\_\_.
  - a. compiler
  - b. `iostream` header file
  - c. linker
  - d. `>>` and `<<` operators
  - e. None of the above

ANS: B

4. \_\_\_\_\_ reads a line of input, including leading and embedded spaces, and stores it in a `string` object.
  - a. `cin.get`
  - b. `getline`
  - c. `cin.getline`
  - d. `get`
  - e. None of these

ANS: B

5. When this operator is used with string operands it concatenates them, or joins them together.
  - a. `&`
  - b. `*`
  - c. `%`
  - d. `+`
  - e. None of the above

ANS: D

6. What is the value stored at `x`, given the statements:

```
int x;  
x = 3 / static_cast<int>(4.5 + 6.4);
```

- a. .3
- b. 0
- c. .275229
- d. 3.3
- e. None of these

ANS: B

7. This function tells the `cin` object to skip one or more characters in the keyboard buffer.
- a. `cin.ignore`
  - b. `cin.jump`
  - c. `cin.hop`
  - d. `cin.skip;`
  - e. None of the above

ANS: A

8. The function, `pow(x, 5.0)`, requires this header file.
- a. `cstdlib`
  - b. `cmath`
  - c. `cstring`
  - d. `iostream`
  - e. `iomanip`

ANS: B

9. You want the user to enter the length, width, and height from the keyboard. Which `cin` statement is correctly written?
- a. `cin << length, width, height;`
  - b. `cin.get(length, width, height);`
  - c. `cin >> length >> width >> height;`
  - d. `cin >> length, width, height;`
  - e. `cin << length; width; height;`

ANS: B

10. You can use these to override the rules of operator precedence in a mathematical expression.
- a. [Brackets]
  - b. (Parentheses)
  - c. {Braces}
  - d. The escape character \
  - e. None of these

ANS: B

11. In the following C++ statement, what will be executed first according to the order of precedence?

```
result = 6 - 3 * 2 + 7 - 10 / 2 ;
```

- a. 6 - 3
- b. 3 \* 2
- c. 2 + 7
- d. 7 - 10
- e. 10 / 2

ANS: B

12. When the final value of an expression is assigned to a variable, it will be converted to:
- a. The smallest C++ data type
  - b. The largest C++ data type
  - c. The data type of the variable
  - d. The data type of the expression
  - e. None of the above

ANS: C

13. When a variable is assigned a number that is too large for its data type, it:
- a. underflows
  - b. overflows
  - c. reverses polarity
  - d. exceeds expectations
  - e. None of the above

ANS: B

14. This manipulator is used to establish a field width for the value immediately following it.
- a. `field_width`
  - b. `set_field`
  - c. `setw`
  - d. `iomanip`
  - e. None of the above

ANS: C

15. This manipulator causes the field to be left-justified with padding spaces printed to the right.
- a. `left_justify`
  - b. `right`
  - c. `left`
  - d. `left_pad`
  - e. None of these

ANS: C

16. This statement will pause the screen, until the [Enter] key is pressed.
- a. `cin;`
  - b. `cin.getline();`
  - c. `cin.get();`
  - d. `cin.ignore();`
  - e. `cin.input();`

ANS: C

17. To use the `rand()` function, you must `#include` this header file in your program.

- a. `iostream`
- b. `iomanip`
- c. `iorand`
- d. `cstdlib`
- e. None of these

ANS: D

18. Assume that `x` is an `int` variable. What value is assigned to `x` after the following assignment statement is executed?

```
x = -3 + 4 % 6 / 5;
```

- a. 0
- b. 1
- c. 2
- d. -3
- e. None of these

ANS: D

19. Which statement will read an entire line of input into the following `string` object?

```
string address;
```

- a. `cin << address;`
- b. `cin address;`
- c. `getline(cin, address);`
- d. `cin.get(address);`
- e. None of the above

ANS: C

20. Associativity is either right to left or

- a. Top to bottom
- b. Front to back
- c. Left to right
- d. Undeterminable
- e. None of the above

ANS: C

21. When converting some algebraic expressions to C++, you may need to insert \_\_\_\_\_ that do not appear in the algebraic expression.

- a. Parentheses
- b. Exponents
- c. Calculations
- d. Coercions
- e. None of the above

ANS: A

22. Which is true about the following statement?

```
cout << setw(4) << num4 << "  ";
```

- a. It allows four spaces for the value in the variable `num4`.
- b. It outputs "setw(4)" before the value in the variable `num4`.
- c. It *should* use `setw(10)` to output the value in the variable `num10`.
- d. It inputs up to four characters stored in the variable `num4`.
- e. None of these

ANS: A

23. The total number of digits that appear before and after the decimal point is sometimes referred to as:
- a. floating points
  - b. significant digits
  - c. precision
  - d. b and c
  - e. None of these

ANS: D

24. This stream manipulator forces `cout` to print the digits in fixed-point notation.
- a. `setprecision(2)`
  - b. `setw(2)`
  - c. `fixed`
  - d. `setfixed(2)`
  - e. None of these

ANS: C

25. When using the `sqrt` function you must include this header file.
- a. `cstdlib`
  - b. `cmath`
  - c. `cstring`
  - d. `iostream`
  - e. `iomanip`

ANS: B

26. The statement

```
cin >> setw(10) >> str;
```

will read up to this many characters into `str`.

- a. Nine
- b. Ten
- c. Eleven
- d. Eight
- e. None of these

ANS: A

27. What will the value of result be after the following statement executes?

```
result = 6 - 3 * 2 + 7 - 10 / 2 ;
```

- a. 8
- b. 6
- c. 1.5
- d. 2

ANS: D

28. What will the value of `x` be after the following statements execute?

```
int x = 0;
int y = 5;
int z = 4;
x = y + z * 2;
```

- a. 13
- b. 18
- c. 0
- d. unknown

ANS: A

29. What is the value of `average` after the following code executes?

```
double average;
average = 1.0 + 2.0 + 3.0 / 3.0;
```

- a. 2.0
- b. 4.0
- c. 1.5
- d. 6.0

ANS: B

30. Which statement is equivalent to the following?

```
number += 1;
```

- a. `number = number + 1;`
- b. `number + 1;`
- c. `number = 1;`
- d. None of these

ANS: A

31. Which statement is equivalent to the following?

```
x = x * 2;
```

- a. `x * 2;`
- b. `x *= 2;`
- c. `x = x * x;`
- d. None of these

ANS: B

32. What is the value of `number` after the following statements execute?

```
int number = 10;
number += 5;
number -= 2;
number *= 3;
```

- a. 3
- c. 15

b. 30

d. 2

ANS: C

33. Which line in the following program will cause a compiler error?

```
1 #include <iostream>
2 using namespace std;
3
4 int main()
5 {
6     const int MY_VAL;
7     MY_VAL = 77;
8     cout << MY_VAL << endl;
9     return 0;
10 }
```

a. 6

c. 9

b. 8

d. 7

ANS: A

34. Which line in the following program will cause a compiler error?

```
1 #include <iostream>
2 using namespace std;
3
4 int main()
5 {
6     const int MY_VAL = 77;
7     MY_VAL = 99;
8     cout << MY_VAL << endl;
9     return 0;
10 }
```

a. 6

c. 9

b. 8

d. 7

ANS: D

## TRUE/FALSE

1. When the `fixed` manipulator is used, the value specified by the `setprecision` manipulator will be the number of digits to appear after the decimal point.

ANS: T

2. The only difference between the `get` function and the `>>` operator is that `get` reads the first character typed, even if it is a space, tab, or the [Enter] key.

ANS: T

3. The `cin <<` statement will stop reading input when it encounters a newline character.

ANS: T

4. If you want to know the length of the string that is stored in a `string` object, you can call the object's `size` member function.

ANS: F

5. Arithmetic operators that share the same precedence have right to left associativity.

ANS: F

6. When C++ is working with an operator, it strives to convert the operands to the same type.

ANS: T

7. When a program uses the `setw` manipulator, the `iosetwidth` header file must be included in a preprocessor directive.

ANS: F

8. The statement

```
cout << setprecision(5) << dollars << endl;
```

will output \$5.00 to the screen.

ANS: F

9. In C++, it is impossible to display the number 34.789 in a field of 9 spaces with 2 decimal places of precision.

ANS: F

10. The `fixed` manipulator causes a number to be displayed in scientific notation.

ANS: F