Section 4
 (Answer all questions in this section)

1Suppose that str1 and str2 are two strings. Which of the statements or
. expressions are valid?

○ String str3 = str1 - str2;

⊙ str1 += str2; (*)

○ str1 >= str2

○ Str1 -= str2;

✔ Correct

2The following program prints "Not Equal". True or false?
.

```
1    String s="abcdef";
2        if(s.charAt(3)=='d')
3            System.out.println("Equal");
4        else
5            System.out.println("Not Equal");
6
```

⊙ True

○ False (*)

❌ Incorrect. Refer to Section 4 Lesson 4.

3The == operator can be used to compare two String objects. The result is
. always true if the two strings are have the exact same characters in each
  position of the String. True or false?

⊙ True

○ False (*)

❌ Incorrect. Refer to Section 4 Lesson 4.

4What will the following code segment output?
.
 String s="\\\n\"\n\\\n\"";
 System.out.println(s);

○ \" \"

○ ""\
   ""

   \
   ""

⊙ \

```
    "
    \
    " (*)
○   "
    \
    "

    \
    "
    "
```

✅ Correct

5. Which of the following creates a String reference named s and instantiates it?

    ☐ Mark for Review
    (1) Points

(Choose all correct answers)

☑ String s=""; (*)

☐ s="s";

☑ String s;

☐ String s=new String("s"); (*)

❌ Incorrect. Refer to Section 4 Lesson 4.

Section 4
(Answer all questions in this section)

6. For every opening curly brace { there does not need to be a closing curly brace} for the program to compile without error. True or False?

    ☐ Mark for Review
    (1) Points

  ⦿ True

  ○ False (*)

❌ Incorrect. Refer to Section 4 Lesson 1.

7. Multiple windows are used when more than one file is open in the edit area. True or False?

    ☐ Mark for Review
    (1) Points

  ○ True

  ⦿ False (*)

✅ Correct

8. In Eclipse, when you run a Java Application, the results are displayed in a new window. True or False?

○ True

◉ False (*)

✔ Correct

9. Eclipse does not provide views to help you navigate a hierarchy of information. True or False?

○ True

◉ False (*)

✔ Correct

10. The _____ is the location into which you will store and save your files.

◉ Perspective

○ Workspace (*)

○ Editor

○ None of the above

✘ Incorrect. Refer to Section 4 Lesson 1.

he following defines a package keyword:

○ Defines where this class lives relative to other classes, and provides a level of access control. (*)

◉ Provides the compiler information that identifies outside classes used within the current class.

○ Precedes the name of the class.

✘ Incorrect. Refer to Section 4 Lesson 2.

12. Which of the following defines an object class?

(1) Points

○ Contains a main method and other static methods.

◉ Contains classes that define objects. (*)

○ Contains a main method, a package, static methods, and classes that define objects.

○ None of the above.

✔ Correct

13. What two values can a boolean variable have?

(1) Points

○ Numbers and characters

◉ True and false (*)

○ Relational and logic operators

○ Arithmetic and logic operators

○ Integers and floating point types

✔ Correct

14. What is the result when the following code segment is compiled and executed?

(1) Points

int x = 22, y = 10;
double p = Math.sqrt((x + y) /2);
System.out.println(p);

○ Syntax error "sqrt(double) in java.lang.Math cannot be applied to int"

○ 4.0 is displayed (*)

○ 2.2 is displayed

○ 5.656854249492381 is displayed

◉ ClassCastException

✖ Incorrect. Refer to Section 4 Lesson 3.

Section 5
(Answer all questions in this section)

15. The six relational operators in Java are:

○ >,<,=,!,<=,>=

◉ >,<,==,!=,<=,>= (*)

○ >,<,=,!=,<=,>=

○ >,<,=,!=,=<,=>

✔ Correct

Section 5

(Answer all questions in this section)

16. Which of the following correctly matches the switch statement keyword to its function? □ Mark for Review (1) Points

(Choose all correct answers)

□ switch: tells the compiler the value to compare the input against

□ default: signals what code to execute if the input does not match any of the cases (*)

☑ case: signals what code is executed if the user input matches the specified element (*)

□ if: records the user's input and sends it to the case statements to find a possible match

□ switch: identifies what element will be compared to the element of the case statements to find a possible match (*)

❌ Incorrect. Refer to Section 5 Lesson 1.

17. Determine whether this boolean expression evaluates to true or false: □ Mark for Review (1) Points

!(3<4&&6>6||6<=6&&7-2==6)

○ True (*)

◉ False

> ❌ Incorrect. Refer to Section 5 Lesson 1.

18. In a for loop the counter is not automatically incremented after each loop iteration. Code must be written to increment the counter. True or false?

☐ Mark for Review
(1) Points

◉ True (*)

○ False

> ✔️ Correct

19. Why are loops useful?

☐ Mark for Review
(1) Points

○ They save programmers from having to rewrite code.

○ They allow for repeating code a variable number of times.

○ They allow for repeating code until a certain argument is met.

◉ All of the above. (*)

> ✔️ Correct

20. When the for loop condition statement is met the construct is exited. True or false?

☐ Mark for Review
(1) Points

○ True

◉ False (*)

> ✔️ Correct

Binary searches can be performed on sorted

☐ Mark for Review
(1) Points

and
unsorted
data.
True or
false?

- ◉ True
- ○ False (*)

❌ Incorrect. Refer to Section 6 Lesson 2.

22. A sequntial search is an iteration through the array that stops at the index where the desired element is found. True or false?

☐ Mark for Review
(1) Points

- ◉ True (*)
- ○ False

✔️ Correct

23. Which of the following is the correct lexicographical order for the conents of the int array?

☐ Mark for Review
(1) Points

{17, 1, 1, 83, 50, 28, 29, 3, 71, 22}

- ○ {71, 1, 3, 28,29, 50, 22, 83, 1, 17}
- ○ {83, 71, 50, 29, 28, 22, 17, 3, 1, 1}
- ◉ {1, 1, 17, 22, 28, 29, 3, 50, 71, 83}
- ○ {1, 2, 7, 0, 9, 5, 6, 4, 8, 3}
- ○ {1, 1, 3, 17, 22, 28, 29, 50, 71, 83} (*)

❌ Incorrect. Refer to Section 6 Lesson 2.

24. Which of the following is a sorting algorithm that involves repeatedly incrementing through the array and swapping 2 adjacent values if they are in the wrong order until all elements are in the correct order?

☐ Mark for Review
(1) Points

- ○ Selection Sort
- ○ Merge Sort
- ○ Bubble Sort (*)
- ○ Sequential Search
- ◉ Binary Search

❌ Incorrect. Refer to Section 6 Lesson 2.

25. What will be the content of the array variable table after executing the following code?

☐ Mark for

```
1    int[][] table=new int[3][3];
2         for(int i=0; i<3; i++)
3             for(int j=0; j<3; j++)
4                 if(j<=i)
5                     table[i][j] = 1;
6
```

○ 1 1 1
  0 1 1
  0 0 1

◉ 1 0 0
  0 1 0
  0 0 1

○ 1 0 0
  1 1 0
  1 1 1 (*)

○ 0 0 1
  0 1 0
  1 0 0

❌ Incorrect. Refer to Section 6 Lesson 1.

Section 6
(Answer all questions in this section)

26. Which of the following declares and initializes a two dimensional array that can hold 6 Object reference types?

☐ Mark for Review
(1) Points

○ String[] array=new String[6];
○ Object array=new Object[6];
◉ Object[][] array=new Object[2][3]; (*)
○ String[][] array=String[6];

✔️ Correct

27. Which of the following declares and initializes a one dimensional array named values of size 5 so that all entries contain 1?

☐ Mark for Review
(1) Points

○ int[] values={1,1,1,1,1};

(*)

○ int[] values={1};

○ int values={1,1,1,1,1};

○ int
   values[]={1,1,1,1,1,1};

   ❌ Incorrect. Refer to
   Section 6 Lesson 1.

28. Which of the following
    declares a one dimensional
    array named names of size 8
    so that all entries can be
    Strings?

    ○ String names=new
      String[8];
    ○ String[] name=new
      Strings[8];
    ⦿ String[] names=new
      String[8]; (*)
    ○ String[]
      name=String[8];

    ✅ Correct

29. What does it mean to catch
    an exception?

    ⦿ It means you have fixed
      the error.
    ○ It means to throw it.
    ○ It means to handle it. (*)
    ○ It means there was never
      an exception in your
      code.

    ❌ Incorrect. Refer to
    Section 6 Lesson 3.

Section 7
(Answer all questions in this section)

30. If it is possible to inherit
    from an abstract class, what
    must you do to prevent a
    compiler error from
    occurring?

(Choose all correct answers)

- [ ] It is not possible to inherit from an abstract class.
- [ ] Create all new methods and variables different from the parent class.
- [x] Override all abstract methods from the parent class. (*)
- [x] Declare the child class as abstract. (*)

✅ Correct

Section 7
(Answer all questions in this section)

31. What is Polymorphism?

- ○ A way of redefining methods with the same return type and parameters.
- ○ A way to create multiple methods with the same name but different parameters.
- ○ A class that cannot be initiated.
- ⊙ The concept that a variable or reference can hold multiple types of objects. (*)

✅ Correct

32. Abstract classes cannot implement interfaces. True or false?

- ○ True
- ⊙ False (*)

✅ Correct

33. Which of the following creates an object from the Animal class listed below:

```
1    public class Animal {
2    private int weight, height;
3    Animal (int w, int h) {
4    weight=w;
5    height=w;
6    }
7
8    }
```

○ Animal cat=new Animal();

○ Animal cat=Animal(50,30);

◉ Animal cat=new Animal(50,30); (*)

○ Animal cat=new Animal(50);

✔ Correct

34. Which of the following creates an instance of the class below?

```
1    public class ThisClass {
2    private int a=4, b=5;
3    ThisClass(int x) {
4         a=x*b;
5    }
6    }
```

◉ ThisClass t=new ThisClass();

○ ThisClass t;

○ ThisClass t=new ThisClass(3,4);

○ ThisClass t=new ThisClass(5); (*)

✖ Incorrect. Refer to Section 7 Lesson 1.

35. Which of the following creates a method that compiles with no errors in the class?

○

```
1    public class ThisClass{
2    private int a=4, b=5;
3    public int calculate(){
4    a=a+b;
5    return a;
6    }
7    }
8
9    }
```
○

```
1    public class ThisClass{
2    private int a=4, b=5;
3    public int calculate(){ a=a+b; return a;}
```

(*)

○

```
1    public class ThisClass{
2     public int a=4, b=5; public int calculat
```

⊙ All of the above.

○ None of the above.

❌ Incorrect. Refer to Section 7 Lesson 1.

Section 7

(Answer all questions in this section)

36. Java's garbage collection is when all references to an object are gone, the memory used by the object is automatically reclaimed. True or false?

☐ Mark for Review
(1) Points

⊙ True (*)

○ False

✔️ Correct

37. If the return type from a method is boolean then 2.5 is a valid return value. True or false?

☐ Mark for Review
(1) Points

○ True

⊙ False (*)

✅ Correct

38. A class always has a constructor. True or false? ☐ Mark for Review
(1) Points

⦿ True (*)

◯ False

✅ Correct

39. Which segment of code represents a correct way to define a variable argument method? ☐ Mark for Review
(1) Points

⦿ String easyArray(String ... elems) {//code} (*)

◯ String easyArray(... String elems) {//code}

◯ String ... easyArray(String elems) {//code}

◯ Integer easyArray ... (int elems) {//code}

✅ Correct

40. How is it possible for overloading to work? ☐ Mark for Review
(1) Points

◯ There is no such thing as overloading.

◯ The code has to be declared as private.

◯ The interpreter doesn't care what you name your constructors.

⦿ Java Virtual Machine searches until it finds a constructor name and argument type match. (*)

✅ Correct

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Section 7

(Answer all questions in this section)

41. Which of the following specifies accessibility to variables, ☐ Mark for Review

methods, and classes?   (1) Points

   ○ Methods

   ○ Parameters

   ○ Overload constructors

   ◉ Access modifiers (*)

     ✔️ Correct

42. Which of the following could be   ☐ Mark for Review
    a reason to return an object?   (1) Points

   ○ Because you wish to be able
to use that object inside of
the method.

   ○ It has faster performance
than returning a primitive
type.

   ◉ The method makes changes
to the object and you wish to
continue to use the updated
object outside of the method.
(*)

   ○ None of the above. It is not
possible to return an object.

     ✔️ Correct

43. Which of the following is the   ☐ Mark for Review
    definition for a variable   (1) Points
    argument method?

   ○ A way to create a new class.

   ○ Specifies accessibility to
code.

   ○ Having more than one
constructor with the same
name but different
arguments.

   ◉ A type of argument that
enables calling the same
method with a different
number of arguments. (*)

     ✔️ Correct

44. A static variable is always   ☐ Mark for Review
    publicly available. True or false?   (1) Points

○ True

◉ False (*)

✅ Correct

45. Static methods can't change any class variable values at run-time. True or false?

☐ Mark for Review
(1) Points

○ True

◉ False (*)

✅ Correct

Section 7

(Answer all questions in this section)

46. Non-final static class variables should be private to prevent changes from other classes. True or false?

☐ Mark for Review
(1) Points

○ True (*)

◉ False

❌ Incorrect. Refer to Section 7 Lesson 3.

47. Why is it not possible to extend more than one class at a time in an inheritance hierarchy chain?

☐ Mark for Review
(1) Points

◉ It is not necessary considering all public content is passed from super class to subclass and further to their subclass and that subclass' subclass and so on. (*)

○ Because the computer cannot handle code that complex.

○ To prevent confusion for the programmer.

○ It is possible to extend more than one class at a time.

✅ Correct

48. According to the following class declaration, runSpeed can be modified in class Cat. True or false?

public class Tiger extends Cat{
public int runSpeed;
}

○ True

◉ False (*)

✅ Correct

49. Which of the following correctly describes the use of the keyword super?

○ A keyword that restricts access to only inside the same class.

◉ A keyword that allows subclasses to access methods, data, and constructors from their parent class. (*)

○ A keyword that signals the end of a program.

○ A keyword that allows access from anywhere.

✅ Correct

50. Why are hierarchies useful for inheritance?

○ They keep track of where you are in your program.

○ They restrict a superclass to only have one subclass.

○ They organize constructors and methods in a simplified fashion.

◉ They are used to organize the relationship between a superclass and its subclasses. (*)

Mark for Review
(1) Points

Mark for Review
(1) Points

Mark for Review
(1) Points

✅ Correct