HOMEWORK 6
JAVA METHODS AND ENCAPSULATION

Qn	Ans	Explanation
1	C	The protected access modifier allows access to everything the package-private access modifier does and more.
2	B	this() is the command to call one constructor from another constructor in the same class. super() is the command to call a constructor in a parent class.
3	D	The code does not compile because it does not return a value.
4	D	It does not compile for some other reason. Public void nested() method does not return a value so print() method throws an exception at runtime.
5	C	Java uses pass by value to send data into a method.
6	C	Public void setRange(int range) is a valid JavaBean method signature because it takes a value, return type is defined as void and naming convention is correct.
7	B	Option B is not true about calling this() in a constructor because super() and this() cannot be used both in the same constructor. Constructor can just call super() or this().
8	B	Long compute() {return 19; } makes the class compile because the return type is valid.
9	C	A static variable is always available to all instances of the class.
10	A	If this(4) is inserted at line p1, it causes the application to print 5. Default Boolean outside is false and rope is assigned to 5.
11	B	Option B is not true because an instance of one class may access package private attributes in a parent class, provided the parent class is in the same package.
12	D	The answer is "None of the above". stuff is declared public so there is not possible to ensure the class data is properly encapsulated. stuff must be declared private for encapsulation.
13	C	Option C is true explanation. If a class extends another class that has only one constructor that takes a value, then the child class must explicitly declare at least one constructor.
14	A	Public void sing(String key, String… harmonies) does not contain a compile error. A method may have maximum one varargs parameter and it must be the last argument in the list.
15	C	In the slalom() method, age value is assigned to 18, myName value is assigned to "Rosie" and mySpeed variable is assigned to 0.
16	B	Public Long findAverage(int sum, int divisor) could be successfully added to the class as an overloaded version of the findAverage() method because the name is same but the argument list are different.
17	D	Encapsulation cannot guarantee about increasing performance and concurrency.
18	A	int[] can be modified after they are passes to a method as an argument.
19	B	MathHelper.roundValue(3.1) is the answer because two classes are in the same package so the package name is not required.
20	D	None of the above is the answer because byte and String return a value using the return statement. Void return type can also call the return command with no values and exit the method.
21	C	Two final modifiers would need to be removed for this application to compile. The score variable is incremented with post increment ++ operator and the result variable is updated with the compound addition += operator. Both of them can be removed to compile the code.
22	D	super() is used to call a constructor in the parent class, while super is used to reference a member of the parent class.
23	B	Signature of void run(String government) has package-private or default so it is accessible to classes in the same package.
24	A	To encapsulate the data in the class, change the access modifier of strength to private.
25	A	GO_$Outside$2() is a valid method name in Java because underscore and $ can be usable for method names.
26	D	The answer is "None of the above". The code does not compile because of the method signature is not valid. The return type must be between access modifier and the method name.
27	B	Option B is the correct answer because a change made to the data within an object passed to a method is reflected in the calling method.
28	C	The code does not compile because of the compilation problem in regard to the contents instance variable.
29	A	"is", "get" and "set" are valid JavaBean method prefix.
30	C	To allow the second class to compile, import static clothes.Store.getClothes; must be added to the line. Static keyword is required because Closet class has the method getClothes() without a

		reference to the class name Store.
31	D	The answer is “None of the above” because the lack of an access modifier indicates that the member is package-private in java.
32	B	The code does not compile because program contains a compilation error.
33	A	An instance method is allowed to reference a static variable.
34	B	To make the code compile, return new Byte((byte)6); must be added to the line. Byte value can be easily promoted to short and returned by the method.
35	C	Overloaded methods must have the same name and a different list of parameters.
36	C	Three lines of code would need to be removed for the class to compile. The value of a static final variable must be set and there is no data type for the variable Wednesday. The final modifier cannot appear before the access modifier for the declaration of Thursday.
37	D	The code does not compile because of line q3. There is no constructor capable of taking an int value.
38	A	The public access modifier allows access to everything the private access modifier does and more.
39	A	Output is “3”. Java uses pass by value to send object references to methods. The value of size the same before and after the method call.
40	B	this.Drink has no meaning for the compiler so the answer is “this.Drink.water()”.
41	C	The method requires one integer, one String and one String varargs so the answer is “call(2, “home”, “sweet”)
42	D	A static variable is always available in all instances of the class.
43	A	The answer is option A because it is not a true statement. The first line of every constructor could be this() or super() command.
44	D	The code will not compile regardless of the number of final modifiers removed. The last static initialization block accesses height must be a static variable not instance variable.
45	D	The code does not compile. A constructor call is not the first line of the RainForest() constructor so the compiler inserts the no-argument super() call. Since the parent class, Forest, does not define a no argument super() constructor. The RainForest() constructor does not compile.
46	A	The output is “5”. The addition + operator automatically promotes all byte and short values to int so the value passed to the choose() in the main() method is an int.
47	C	The code does not compile because of line m2. startTime can be automatically converted to Integer by the compiler, but Integer is not a subclass of Long.
48	A	$sprint() is a valid method name in Java because dollar symbol or underscore character can be used for method name.
49	B	The protected modifier allows access by any subclass or class that is in the same package so the answer is “Any subclass of Bouncer or any class in the same package as Bouncer”.
50	D	The answer is “None of the above”. The withdrawal() and deposit() methods in the Bank class are not marked static. They require an instance of Bank to be used and cannot be imported as static methods.

Reference

Scott S, Jeanne B.: OCA/OCP Java SE 8 Programmer Practice Tests. Indiana, USA: 2017.