Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**AP Computer Science A (Java)**

**Chapter 8: Classes**

**Section 1: Object-Oriented Programming**

**Section 2: Object State and Behavior**

1. An object contains state also known as data and behavior\_ also known as methods.
2. Describe the difference between object-oriented programming and procedural programming. Procedural
3. How is an object different from a class? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. What is a major benefit of objects? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. What is client code? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Created objects are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the class.
7. The DOS operating system is an example of a command line interface that is structured as “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_”; whereas, the Windows and Mac operating systems are examples of GUI interfaces that are structured as “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_”.
8. With one class we can create \_\_\_\_\_\_\_\_\_\_\_\_\_\_ objects. (Choose: 0, 1, 2 or many)
9. If we compiled and executed the Point class, would it compile and execute without an error? Why or why not? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
10. Write the statement that would create a Point object named point1 with x = 0 and y = 0 in a client program. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
11. In the Point class, x and y are called \_\_\_\_\_\_\_\_\_\_\_\_ variables or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
12. What is the difference between an instance variable and a parameter in terms of syntax and in terms of scope? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
13. In the Point class, the translate method is an example of a \_\_\_\_\_\_\_\_\_\_\_\_ type of method and the distanceFromOrigin method is an example of a \_\_\_\_\_\_\_\_\_\_\_\_ type of method.
14. What are the naming conventions for these 2 types of methods? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
15. What is the difference between a static method and an instance method? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
16. What is an implicit parameter? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
17. A client program creates a new object from the Point class called point1. Write the statement which would call the method translate of the object point1 with parameters of 3 for delta x and 5 for delta y. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
18. Write the required method header for the toString method that is needed to override the default toString method, which prints the memory address of the object. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
19. Are print statements placed within a toString method? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
20. Why does the toString method return a String? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_