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| **APCS Exposure Java** | **Exercises 04.01-04** | **Date:** |
| **Name:** | | **Period:** |

1. What does OOP stand for?

2. What is the difference between C++ and Java with regards to OOP?

3. What are the 4 stages of program design?

4. Why were some programs intentionally written very cryptic in the 1st stage of program design?

5. Why did the first stage of program design not last long?

6. What quick fix statement was used in the 2nd stage of program design?

7. Refer to the previous question. How did this statement lead to the term *spaghetti programming*?

8. Programs in the past and today have one common goal that allows no compromise. What is that?

9. Is **GOTO** used in *structured programming*?

10. In structured programming, program flow is strictly controlled with how many entrances and exits?

11. In structured programming, program statements with a common purpose were grouped together in special \_\_\_\_\_\_\_\_\_\_\_\_\_.

12. In structured programming, how many tasks per module?

13. Structured programming greatly improved the \_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_, of programs.

14. Why are computer programs so much longer today that they were in the late 1980s and early 1990s?

15. OOP incorporates what 3 features?

16. In OOP, what are *attributes* used for?

17. In OOP, what are *methods* used for?

18. What 2 Java methods have you already learned about?

19. What is *encapsulation*?

20. What does the word *polymorphism* mean?

21. Explain *class interaction* in computer science terms.

22. What are 2 types of *class interaction*?

23. Modules that perform a related set of functions are grouped together in a special program type of container. What is this container called?

24. What 2 things do classes contain?

25. What are the 2 types of methods in Java?

26. What is the output of **System.out.println(Math.sqrt(100));** ?

27. Refer to the previous question. What does ***Math*** signify?

28. Refer again to question 26. What does ***sqrt*** signify?

29. Refer yet again to question 26. What does ***100*** signify?

30. What is a *parameter* used for?

31. Can a method be an argument for another method?

32. The information, which is passed to a method is called an \_\_\_\_\_\_\_\_\_\_\_\_\_ or a \_\_\_\_\_\_\_\_\_\_\_\_\_.

33. Where are parameters placed?

34. What 4 things can parameters be?

35. What is the output of **System.out.println(Math.sqrt(-100));** ?

36. The **floor**, **ceil**, and **round** methods of the **Math** class all “round” in some way.

What is the difference among them?

37. What is the output of **System.out.println(Math.max(100,50));** ?

38. What is the output of **System.out.println(Math.min(100,50));** ?

39. What is the output of **System.out.println(Math.abs(-7));** ?

40. What is the output of **System.out.println(Math.pow(3,4));** ?

41. What is the output of **System.out.println(Math.pow(4,3));** ?

42. Are *PI* and *E* attributes or methods of the *Math* class?