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| **APCS Exposure Java** | **Exercises 03.01-06** | **Date:** |
| **Name:** | | **Period:** |

1. What makes Math, Science and Computer Science possible?

2. A computer program is made up of words, which usually are called what?

3. Under what condition will the compiler create a *bytecode* file?

4. What is the first Java syntax rule?

5. List the 3 categories of *keywords*.

6. List 3 examples of Java *Reserved Words*.

7. Java has a large number of libraries that enhance the basic Java language. These libraries contain special program modules that perform a variety of tasks to simplify the life of a programmer. What are these modules called?

8. List 2 examples of *Predefined Identifiers*.

9. When you are creating *User-Defined Identifiers*, you must make sure your identifier is not one of what two things?

10. What are the rules for naming an identifier?

11. Print the Java statement that will declare **x** as an integer.

12. Refer to the previous question. Print the statement that will assign the value of 7 to **x**.

13. In program ***Java0301.java***, why does the statement: **System.out.println(a);** display the value of *10* and not *a*?

14. Why does program ***Java0302.java*** not compile?

15. Print the Java statement that will declare **x** as an integer and assign the value of 7 to **x** in one single statement.

16. List Java’s 4 integer types.

17. How many bytes are used by an **int**?

18. What is the largest value of a **byte**?

19. Would a **short** be appropriate to store Zip Codes?

20. Explain your answer to the previous question.

21. What are the 5 integer operations?

22. What is the difference between the **/** and the **%** division operators?

**In questions 23 through 32 fill in the integer quotient and the integer remainder.**

23. 20 / 1 = \_\_\_\_\_\_\_?  20 % 1 = \_\_\_\_\_\_\_?

24. 20 / 2 = \_\_\_\_\_\_\_?  20 % 2 = \_\_\_\_\_\_\_?

25. 20 / 3 = \_\_\_\_\_\_\_?  20 % 3 = \_\_\_\_\_\_\_?

26. 20 / 4 = \_\_\_\_\_\_\_?  20 % 4 = \_\_\_\_\_\_\_?

27. 20 / 5 = \_\_\_\_\_\_\_?  20 % 5 = \_\_\_\_\_\_\_?

28. 20 / 6 = \_\_\_\_\_\_\_? 20 % 6 = \_\_\_\_\_\_\_?

29. 20 / 7 = \_\_\_\_\_\_\_? 20 % 7 = \_\_\_\_\_\_\_?

30. 20 / 8 = \_\_\_\_\_\_\_? 20 % 8 = \_\_\_\_\_\_\_?

31. 20 / 9 = \_\_\_\_\_\_\_? 20 % 9 = \_\_\_\_\_\_\_?

32. 20 / 10 = \_\_\_\_\_\_\_? 20 % 10 = \_\_\_\_\_\_\_?

33. What 2 data types are used by Java use for *real numbers*?

34. Refer to the previous questions. Which of these is more accurate?

35. What are the 4 real number operations?

36. Is *real number remainder division* possible in Java? If so is it practical?

37. In binary, what indicates if a number is positive or negative?

38. How is it possible for a computer to multiply 2 positive numbers, and get a negative product?

39. Explain *Memory Overflow*.

**Assume** x **is an** int **for the next several questions.**

40. What does **x++;** or **++x;** mean?

41. What does **x--;** or **–x;** mean?

42. Should Java shortcuts be combined with other Java statements?

Example: **System.out.println(x++);**

43. What does **x += 5;** mean?

44. What does **x -= 5;** mean?

45. What does **x \*= 5;** mean?

46. What does **x /= 5;** mean?

47. What does **x %= 5;** mean?