Answers and Solutions

Exam #1 ~ Multiple Choice

1. A	11. E	21. C	31. D
2. A	12. B	22. A	32. B
3. D	13. B	23. E	33. A
4. C	14. D	24. D	34. A
5. B	15. C	25. E	35. A
6. A	16. D	26. D	36. C
7. B	17. D	27. C	37. B
8. B	18. C	28. C	38. B
9. D	19. B	29. C	39. B
10. A	20. E	30. E	40. E

Notes:

1. `17/5` gives `3`; `3 % 3 = 0`; `85 % 3 = 1`.

2. This is equivalent to `(a && !b) || (!a && b)`.

3. `\\` in `"yes\\no"` represents one backslash character, and `\n` in `"\no"` represents the newline character. `"yes\\no"` does not include a newline character.

4. `s1 = "BCD"`, so `printSomething(s1)` cannot print any A's. The only "A" is printed in the `println` statement for the original string. `printSomething(s)` prints 1 letter if `n` is 1, 1 + 2 + 1 = 4 letters if `n` is 2, 4 + 3 + 4 = 11 letters if `n` is 3, and 11 + 4 + 11 = 26 letters if `n` is 4.

5. The smallest possible value of `x` is 0, when `Math.random()` returns a number close to 0 (any number < 1/16). The largest possible value of `x` is 2, when `Math.random()` returns a number close enough to 1 (any number > 9/16).

6. Strings are usually compared using the `equals` method, not ==, unless you want to establish that two strings are exactly the same object, or when you are comparing a `String` reference to `null`. (The `String` class has a constructor that creates a copy of a string, but constructing a copy using the `new` operator, as in `str2 = new String(str1)`, is rarely, if ever, useful. Strings are immutable, and there are no problems when more than one reference points to the same string, so you can just copy a reference to the string, as in `str2 = str1`.)

7. A cast to `int` truncates the `double` value 31415.9 toward zero.

8. To compare two strings you must use `compareTo`, which returns an `int`.