› Answers and Explanations

Bullets mark each step in the process of arriving at the correct solution.

1. The answer is D.

   - The value of `var` begins at 12.
   - The operation `var % 7` finds the remainder after `var` is divided by 7. Since 12 / 7 is 1 remainder 5, the value of `var` is now 5.
   - `var--` means subtract 1 from `var`, so the value of `var` is now 4, and that's what is printed.

2. The answer is A.

   - `count * multiplier` = 12.5
   - When we cast 12.5 to an `int` by putting `(int)` in front of it, we *truncate* (or cut off) the decimals, so the value we assign to answer is 12.
   - `12 * 5 = 60.   60 % 10 = 0` because 60 / 10 has no remainder.
   - So we print 0.

3. The answer is C.

   - After the values of the variables are assigned, the first operation that happens is the multiplication 2.0 * 13, which results in 26.0. Remember, multiplication and division have higher precedence than addition (PEMDAS).
   - The next operation that happens is 26.0 / 5, which results in 5.2.
   - Then finally addition is performed. 3.6 + 5.2 results in 8.8.

4. The answer is D.

   - Since both the `sum` and `count` variables are declared as integers, casting must occur in order for the average to contain a double value.
   - The correct option is to cast either `sum` or `count` as a double and then perform the division, which will result in a double value.
   - Answer E would have been correct if the parentheses were placed around "double" on the right side of the assignment.

5. The answer is A.

   - Division by zero will generate an `ArithmeticException` error.