

4. A program is to simulate plant life under harsh conditions. In the program, plants die randomly according to some probability. Here is part of a `Plant` class defined in the program.

```
public class Plant
{
    /** probability that plant dies, a real number between 0 and 1 */
    private double probDeath;

    public Plant(double plantProbDeath, <other parameters >)
    {
        probDeath = plantProbDeath;
        <initialization of other instance variables >
    }

    /** Plant lives or dies. */
    public void liveOrDie()
    {
        /* statement to generate random number */
        if (/* test to determine if plant dies */)
            <code to implement plant's death >
        else
            <code to make plant continue living >
    }

    //Other variables and methods are not shown.
}
```

Which of the following are correct replacements for

- (1) `/* statement to generate random number */` and  
(2) `/* test to determine if plant dies */`?

- (A) (1) `double x = Math.random();`  
(2) `x == probDeath`
- (B) (1) `double x = (int) (Math.random());`  
(2) `x > probDeath`
- (C) (1) `double x = Math.random();`  
(2) `x < probDeath`
- (D) (1) `int x = (int) (Math.random() * 100);`  
(2) `x < (int) probDeath`
- (E) (1) `int x = (int) (Math.random() * 100) + 1;`  
(2) `x == (int) probDeath`
5. A program simulates fifty slips of paper, numbered 1 through 50, placed in a bowl for a raffle drawing. Which of the following statements stores in `winner` a random integer from 1 to 50?
- (A) `int winner = (int) (Math.random() * 50) + 1;`  
(B) `int winner = (int) (Math.random() * 50);`  
(C) `int winner = (int) (Math.random() * 51);`  
(D) `int winner = (int) (Math.random() * 51) + 1;`  
(E) `int winner = (int) (1 + Math.random() * 49);`