1.

Identify valid for constructs:

Please select 3 options

- [ ] for(;Math.random()<0.5;)
  {
      System.out.println("true");
  }

- [ ] for(;;Math.random()<0.5)
  {
      System.out.println("true");
  }

- [ ] for(;;Math.random())
  {
      System.out.println("true");
  }

- [ ] for(;;)
  {
      if(Math.random()<.05) break;
  }

2.

What can you do to make the following code print a number between 0 and 10?
(Assume appropriate import statements.)

```
int x = 10;
//insert code here
System.out.println(d);
```

Please select 3 options

- [ ] Random r = new Random(x);
  int d = r.nextInt();

- [ ] Random r = new Random();
  int d = r.nextInt(x);

- [ ] Random r = new Random(x);
  int d = r.nextInt(x);

- [ ] Random r = new Random(x);
  int d = (int) r.next()*10;

- [ ] Random r = new Random();
  r.setSeed(x);
  int d = (int) r.next()*10;

- [ ] Random r = new Random(x);
  r.setSeed(x);
  int d = r.nextInt(x);

3.

What can be inserted at //1 and //2 in the code below so that it will print a number between 0.0 and 1.0?
(Assume that no package has been imported in the code.)

```
    //1
    double d = //2
    System.out.println(d);
```

Please select 2 options

☐
```
java.util.Random r = new java.util.Random();
and
r.random();
```

☐
```
Random r = new Random();
and
r.random();
```

☐
```
java.util.Random r = new java.util.Random();
and
r.nextDouble();
```

☐
```
Random r = new Random();
and
r.next();
```

☐
```
java.util.Random r = new java.util.Random(100);
and
r.nextDouble();
```

☐
```
Random r = new Random(100);
and
r.getDouble();
```

4.

Which package contains Random class?

Please select 1 option

○ java.lang

○ java.util

○ java.math

○ java.net

5.

Identify correct statements.

In the given statements, it is not clear what is meant by number? Does it mean integer or double? Unfortunately, the real exam does have such vaguely worded questions on Math.random. Our suggestion is to answer the question assuming that numbers mean integers and doubles both.
So, when they say "number between 1 and 10", it means any integer or a double between 1 and 10.

Further, it is not clear whether both the numbers in the given range are inclusive or exclusive. Since, Math.random() returns a double between 0.0 (inclusive) and 1.0 (exclusive), our suggestion is to use the same convention. i.e. when they say "number between 1 and 10", it means >=1 and <10.

Please select 2 options

☐ `1 + Math.random()*9` will return a random number between 1 and 10.

☐ `Math.random()*10` will return a random number between 1 and 10.

☐ `Math.round(Math.random()*9)` will return a random number between 1 and 10.

☐ `1 + Math.round(Math.random()*9)` will return a random number between 1 and 10.

☐ `Math.round(Math.random()*10)` will return a random number between 1 and 10.