Read the following while-loop examples. Write the output for each while-loop. Then, create a class that you can use to test your solutions. Were you correct? If so, great! If not, it is crucial that you re-assess each example and understand the output for each problem!

1. *int i=5;*
   while(i>1) {
      System.out.println(i);
      i--;
   }

2. *int i=1, num2=3;*
   while(num2<=15)
   {
     System.out.print(num2 + " ");
     i++;
     num2+=i;
   }

3. *int k=0;*
   while(k<7)
   {
     System.out.print((int)Math.pow(2,k)+" ");
     k++;
   }

4. *int v=0;*
   final int NUM=5;
   while (v!=NUM)
   {
     *System.out.print(v*3);*
     v++;
   }

5. *int m=0, n=0;*
   while(m<13)
   {
      n=4;
      while(n>m)
        n+=2;
      m+=1;
   }
   System.out.println(m+" "+n);

6. Read the following code and then write a complete explanation of what this code does. Explain all parts of the code and explain in full what happens under certain conditions:

```
int num=(int)(Math.random()*25+1);
int userNum=0, counter=0;

while(userNum != num)
{
    System.out.print("Guess a number 1-25: ");
    Scanner getUserNum = new Scanner(System.in);
    userNum = getUserNum.nextInt();
    counter++;

    if(userNum==num)
    {
        System.out.println("Winner! It took you "+counter+" tries.");
        break;
    }

    else if(userNum>num)
        System.out.println("Your Guess is too high.");

    else
        System.out.println("Your Guess is too low.");
}
```