Name (print): ____________________________

1. For each piece of code below, give the output of the code. You may assume that each piece is part of a working program. If the code does not terminate, give the first 3 outputs and then state “infinite loop”.

(a) (2 points)
\[
x = 10;
if (x > 5) {
  System.out.println("greater than 5");
} else if (x > 8) {
  System.out.println("greater than 8");
} else if (x == 10) {
  System.out.println("equal to 10");
} else {
  System.out.println("other");
}
\]

(b) (2 points)
\[
int x = 4;
while(x != 0) {
  System.out.println(x);
  x -= 3;
}
\]

(c) (3 points)
\[
int x = 0;
while(x <= 10) {
  System.out.println(x);
  if (x <= 2) {
    x++;
  } else if (x <= 5) {
    x = x + 2;
  } else {
    x = x + 4;
  }
}
\]

(d) (2 points)
\[
int x = 4;
while(x > 0) {
  System.out.println(x);
  x -= 2;
}
\]
(e) (3 points)

```java
x = 10;
if (x > 5) {
    System.out.println("greater than 5");
} else if (x > 8) {
    System.out.println("greater than 8");
} else if (x == 10) {
    System.out.println("equal to 10");
} else {
    System.out.println("other");
}
```

2. Consider the code below:

```java
Scanner in = new Scanner(System.in);
int x = in.nextInt();
switch(x) {
    case 1:
        System.out.println("One");
        break;
    case 2:
        System.out.println("Two");
    case 3:
        System.out.println("Three");
    case 4:
        System.out.println("Four");
        break;
    default:
        System.out.println("Other");
}
```

(a) (1 point) What is the output of the code if the user enters 1?

(b) (1 point) What is the output of the code if the user enters 3?

(c) (1 point) What is the output of the code if the user enters 10?