Information

For each of the following while loops, state how many times the loop will execute its body. "zero," "infinity," and "unknown" are legal answers.

Question 1 (12 points)

A
```java
int x = 1;
while (x < 100) {
    System.out.print(x + " ");
    x += 10;
}
```

B
```java
int max = 10;
while (max < 10) {
    System.out.println("count down: "+ max);
    max--;
}
```

C
```java
int x = 250;
while (x % 3 != 0) {
}
System.out.println(x);
```

D
```java
int x = 2;
while (x < 200) {
    System.out.print(x + " ");
    x *= x;
}
```

E
```java
String word = "a";
while (word.length() < 10) {
    word = "b" + word + "b";
}
System.out.println(word);
```

F
```java
int x = 100;
while (x > 0) {
    System.out.println(x / 10);
    x = x / 2;
}
```
Information

public static void mystery(int x) {
    int y = 1;
    int z = 0;
    while (2 * y <= x) {
        y = y * 2;
        z++;
    }
    System.out.println(y + " " + z);
}

For each of the following calls, indicate the output that the preceding method produces:

Question 2 (10 points)
Information

Consider the following variable declarations:

```java
type x = 27;
type y = -1;
type z = 32;
boolean b = false;
```

What is the value of each of the following boolean expressions?

**Question 3 (12 points)**

a). `!b`

b). `b || true`

c). `(x > y) && (y > z)`

d). `(x == y) || (x <= z)`

e). `!(x % 2 == 0)`

f). `(x % 2 != 0) && b`

g). `b && !b`

h). `b || !b`

i). `(x < y) == b`

j). `!(x / 2 == 13) || b || (z * 3 == 96)`

k). `(z < x) == false`

l). `!((x > 0) && (y < 0))`