

Note: It is recommended that you save your response as you complete each question.

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
=====

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

B
=====

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

C
=====

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

D
=====


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


E
=====

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

F
=====

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

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Blank # 2 

Blank # 3 

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Save

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) 

```
mystery(1);  
mystery(6);  
mystery(19);  
mystery(39);  
mystery(74);
```

Blank # 1	<input type="text"/>	A✓
Blank # 2	<input type="text"/>	A✓
Blank # 3	<input type="text"/>	A✓
Blank # 4	<input type="text"/>	A✓
Blank # 5	<input type="text"/>	A✓

Save

Information

Consider the following variable declarations:

```
int x = 27;  
int y = -1;  
int 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))