ReviewProblems.java

```java
public class ReviewProblems {
    public static void main(String[] args) {
        int total=0, MAX=0, length=0, MIN_LENGTH=0, count=0, sum=0;

        // 3.2 What's wrong?
        if (total == MAX) {
            if (total < sum)
                System.out.println ("total == MAX and is < sum.");
        }
        else
            System.out.println ("total is not equal to MAX");




        // 3.3  What's wrong?  Will it compile?                    ==
        if (length = MIN_LENGTH)
            System.out.println("The length is minimal.");




        // 3.4 What output is produced?
        int num = 87, max = 25;
        if (num >= max*2)
            System.out.println("apple");
            System.out.println("orange");
        System.out.println("pear");




        // 3.5 What is produced?
        int limit = 100, num1 = 15, num2 = 40;
        if (limit <= limit) {
            if (num1 == num2)
                System.out.println("lemon");
            System.out.println("lime");
        }
        System.out.println("grape");




        // 3.7 What is produced?
        num = 1; max = 20;
        while (num < max) {
            if (num%2 == 0)
                System.out.println(num);
            num++;
        }




        // 3.8 What output is produced?
        for (num=0; num<=200; num += 2)
            System.out.println(num);




        // 3.9 What output is produced?
        for (int val = 200; val >= 0; val -= 1)
            if (val % 4 != 0)
                System.out.println(val);




        // 3.10 Transform while into for
        num = 1;
        while (num < 20) {
            num++;
            System.out.println(num);
        }
    }
}
```

Handwritten annotations:

3.4 → apple orange pear

3.5 → lime grape

3.7 → Values going into loop: 1,2,3,...,9 ; 2,4,6,....18

Big Test Question — What is num after the loop completes 20

3.8 → loop: 0, 2, 4, ... 200

3.9 → Values into the loop: 200, 199, 198.... 0 ; 199, 198, 197, 195, 194, 193, 191... 1

3.10 → bed form ; 2, 3, 4, ... 20

```
76          }
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81          // 3.11 What is wrong?  List three ways it could be corrected
82          count - 50;
83          while (count >= 0) {                  infinite loop
84              System.out.println(count);
85              count = count + 1;
86          }
87
88
89
90
91
92      }
93  }
94
95
96
```