Visual Basic   Name -
Tracing While Loops Worksheet #5   Period -

Trace the following code segments showing the values for each variable in the appropriate columns. If an error occurs, explain it. Write "infinite loop" if a loop never ends. **Circle the final values stored in each variable.**

1.
```
Dim num As Integer = 1
Dim sum As Integer = 0                                        num          sum

While (sum < 5)
   num += 1
   sum += num
End While
```

2.
```
Dim num As Integer = 0              num          sum
Dim sum As Integer = 14

While (sum > 10)
   sum -= 1

   If (num = 1) Then
      Exit While
   End If

   num += 2
End While
```

4. Assume the user inputs the values 4, 2, 6, 8, 9 **though all of these values may not be used.**
                                                             num   sum
```
Dim num As Integer = 0
Dim sum As Integer = 0

While (num <= 6)
    num = InputBox("Enter a number: ")
    sum += num
End While
```

5. Assume the user inputs the values 40, 20, 6, 80, 99 **though all of these values may not be used.**
                                            amountThisPurchase   totalPurchases
```
Const CREDIT_CARD_LIMIT As Double = 100.00
Dim amountThisPurchase As Double = 0
Dim totalPurchases As Double = 0

While (totalPurchases + amountThisPurchase < CREDIT_CARD_LIMIT)
    totalPurchases += amountThisPurchase
    amountThisPurchase = InputBox("Enter the price of this purchase: ")
End While
```

6. Assume the user inputs the values 40, 20, 6, 80, 99 **though all of these values may not be used.**
                                            amountThisPurchase   totalPurchases
```
Const CREDIT_CARD_LIMIT As Double = 100.00
Dim amountThisPurchase As Double = 0
Dim totalPurchases As Double = 0

While (totalPurchases + amountThisPurchase < CREDIT_CARD_LIMIT)
    amountThisPurchase = InputBox("Enter the price of this purchase: ")
    totalPurchases += amountThisPurchase
End While
```

7. Explain why the answers to #5 & 6 are different even though the code is very similar.