```
Function EBO(N, COL)

EBO = 0
For K = 1 To 31
   If K + N < 33 Then
   ebo1 = K * Cells(N + K + 2, COL).Value
   EBO = EBO + ebo1
   Else
   Exit For
   End If
Next K

End Function
```

```
Function PBO(n1, COLUMN)

PBO = 0
If n1 = 0 Then
PBO = Cells(2, COLUMN).Value
Else
   PBO = Cells(n1 + 2, COLUMN).Value + Cells(n1 + 1, COLUMN + 1).Value
End If
End Function
```

```
Function VBO(N, COLUNA)

EBO2 = 0
For K = 1 To 31
   If K + N < 33 Then
   ebo1 = K * Cells(N + K + 2, COLUNA).Value
   EBO2 = EBO2 + ebo1
   Else
   Exit For
   End If
Next K
bo1 = 0
For K = 1 To 31
   If K + N < 33 Then
   bo1 = K * K * Cells(N + K + 2, COLUNA).Value
   BO = BO + bo1
   Else
   Exit For
   End If
Next K
VBO = BO - (EBO2 ^ 2)
End Function
```

JFukuda Sept2008

```
Sub PBOBASE()

For x1 = 2 To 32
If Cells(x1, 1).Value = Cells(1, 6).Value Then
Cells(2, 6).Value = Cells(x1, 3).Value
Else
End If
Next x1

For x1 = 3 To 32
If Cells(x1 + Cells(1, 6).Value, 2).Value <> "" Then
Cells(x1, 6).Value = Cells(x1 + Cells(1, 6).Value, 2).Value
Else
Cells(x1, 6).Value = 0
End If
Next x1

End Sub
```

```
Function CONV(N As Integer, COL1 As Integer, COL2 As Integer) As Double
Dim K As Integer
CONV = 0
For K = 0 To N
CONV = CONV + Cells(K + 2, COL1).Value * Cells(N - K + 2, COL2).Value
Next
End Function
```

```
Function disagg(rate As Double, totalrate As Double, qty As Integer) As Double
quoc = rate / totalrate
disagg = 0
disagg1 = 0
comb = 0
   For N = 0 To 30
      If qty + N + 2 < 32 + 1 Then
         fact1 = Application.WorksheetFunction.Fact(qty + N)
         fact2 = Application.WorksheetFunction.Fact(qty)
         fact3 = Application.WorksheetFunction.Fact(N)
         comb = fact1 / (fact2 * fact3)
         disagg1 = comb * (quoc ^ qty) * ((1 - quoc) ^ N) * Cells(qty + N + 2,
6).Value
         disagg = disagg + disagg1
      Else
         Exit For
      End If
   Next N
End Function
```

JFukuda Sept2008

```
Function MMS(LAMBDA, MI, S, JJ)

MMS = 0
RO = (LAMBDA * MI) / S
If JJ = 0 Then
   For X3 = 0 To S - 1
   FACTORIAL1 = Application.WorksheetFunction.Fact(X3)
   MMS1 = ((S * RO) ^ X3) / FACTORIAL1
   MMS = MMS + MMS1
   Next X3
   FACTORIAL2 = Application.WorksheetFunction.Fact(S)
   MMS = MMS + ((S * RO) ^ S) / (FACTORIAL2 * (1 - RO))
   MMS = MMS ^ (-1)
 Else

 If JJ <= S Then
   FACTORIAL3 = Application.WorksheetFunction.Fact(JJ)
   MMS2 = ((S * RO) ^ JJ) / FACTORIAL3
   MMS = MMS2 * Cells(2, 2).Value
   Else

If JJ > S Then
   FACTORIAL4 = Application.WorksheetFunction.Fact(S)
   MMS3 = ((S * RO) ^ JJ) / (FACTORIAL4 * (S ^ (JJ - S)))
   MMS = MMS3 * Cells(2, 2).Value
   Else
   End If

   End If

 End If

End Function
```

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