1.

```
Function lhsb(n As Integer) As Single
k = 0
Do While k < n + 2
p = 0
Do While p < k + 1
lhsb = lhsb + Cos(2 * p)
p = p + 1
Loop
k = k + 1
Loop
End Function
```

12 points

```
Function rhsb(n As Integer) As Single
rhsb = (2 + n + Sin(2 + n) ^ 2 / Sin(1) ^ 2) / 2
End Function
```

8 points

for function lhsb and 8 points for function rhsb

lhsb(4)=rhsb(4)=3.05513 lhsb(9)= rhsb(9)=6.20613 (5 points)

3.

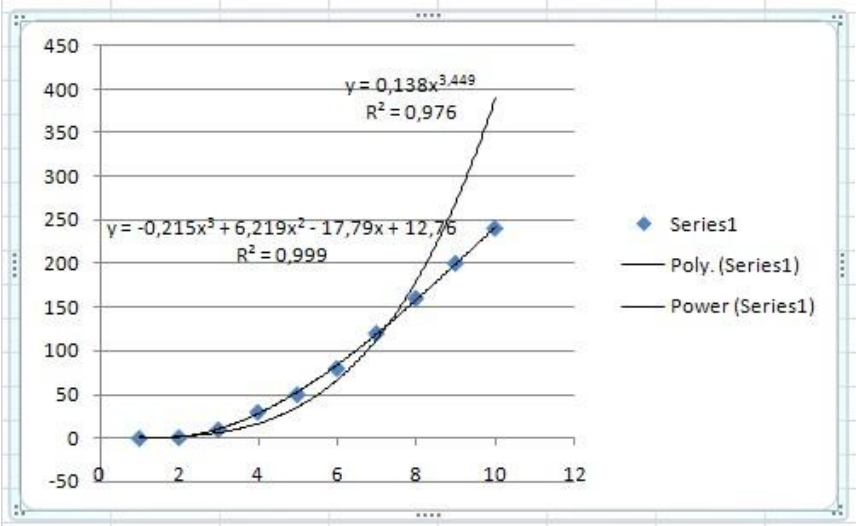
α=27,89152 β=-64,2933

(7 points)

The output from =Linest(B1:B10;A1:A10;true;true) is:

27,89152	-64,2933
2,435631	15,1127
0,942502	22,12272

therefore r^2=0.942502. (8 points)



The third order polynomial fit is better, as r^2 is closer to 1 (2 points).

Each of the equations (polynomial and power law) will be awarded 4 points.

2.

```
Sub anticommute()
Dim A, B As Variant
A = Range("A1:B2").Value
B = Range("A3:B4").Value
Dim C(1 To 2, 1 To 2) As Variant
i = 1
Do Until i = 3
j = 1
Do Until j = 3
C(i, j) = A(i, 1) * B(1, j) + A(i, 2) * B(2, j) + B(i, 1) * A(1, j) + B(i, 2) * A(2, j)
j = j + 1
Loop
i = i + 1
Loop
Range("E1").Value = "The anticommutator is:"
Range("F1:G2").Value = C
End Sub
```

4 points for correct loop structure, 8 points for correct computation of C, 4 points for correct definition of A and B, 4 points for correct rendering of output C

A	B	C	D	E	F	G
3	-7			The anticommutator is:	17	-52
1	-5				10	-55
2	-2					
-1	6					

5 points for getting the correct matrix C

4.

```
Sub tutorial()
Dim ti, pin, p1, p2, p3, p4 As String
ti = "Icons tutorial"
pin = "Enter here one of the following numbers: 16, 32, 48 or 64"
p1 = "Critical Message Icon"
p2 = "Warning Query Icon"
p3 = "Warning Message Icon"
p4 = "Information message Icon"
beginning:
ret = InputBox(pin, ti)
If ret = 16 Then
ret2 = MsgBox(p1, ret, ti)
ElseIf ret = 32 Then
ret2 = MsgBox(p2, ret, ti)
ElseIf ret = 48 Then
ret2 = MsgBox(p3, ret, ti)
ElseIf ret = 64 Then
ret2 = MsgBox(p4, ret, ti)
Else
GoTo beginning
End If
End Sub
```

3 points for variable definitions

2 points for the input box

4 points for each of the five if cases