Exam B Solutions 2010

Question 1

```
Function f(n As Integer) As Single
k = 0
For k = 2 To 2 * n Step 2
f = f + 2 * k + 3
Next k
End Function
```

10 points

```
Sub sum()
n = Range("B1").Value
k = 0
For k = 2 To 2 * n Step 2
ff = ff + 2 * k + 3
Next k
Range("B2").Value = ff
End Sub
```

10 points

```
Function lhs(n As Integer) As Single
lhs = n * (5 + 2 * n)
End Function
```

5 points

Question 2

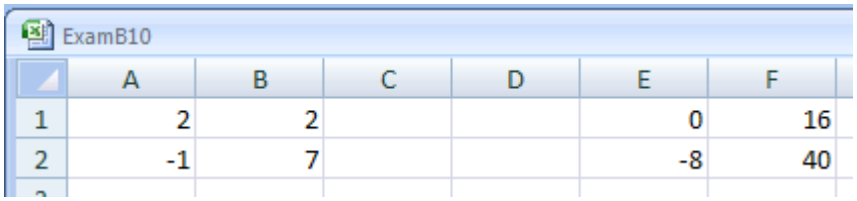
```
Sub calculator()
n1 = InputBox("Enter a number:", "Input")
n2 = InputBox("Enter another number:", "Input")
1:
op = InputBox("Enter here the name of the operation", "Operation")
If op = "addition" Then
x = n1 + n2
r = MsgBox("The sum is " & x, 0, "Calculator")
ElseIf op = "subtraction" Then
x = n1 - n2
r = MsgBox("The difference is " & x, 0, "Calculator")
ElseIf op = "multiplication" Then
x = n1 * n2
r = MsgBox("The product is " & x, 0, "Calculator")
ElseIf op = "power" Then
x = n1 ^ n2
r = MsgBox("The power is " & x, 0, "Calculator")
Else
r = MsgBox("This is not a valid operation!", 16, "Problem")
GoTo 1
End If
End Sub
```

25 points distributed as follows: 3 points for the first 3 InputBoxes, 10 points for the If structure, 10 points for the right MsgBoxes (2 points each), 2 points for the GOTO structure.

Question 3

```
Sub matrix()
Dim A As Variant
Dim B(1 To 2, 1 To 2)
A = Range("A1:B2").Value
i = 1
Do Until i = 3
j = 1
Do Until j = 3
B(i, j) = -A(i, j) + A(i, 1) * A(1, j) + A(i, 2) * A(2, j)
j = j + 1
Loop
i = i + 1
Loop
Range("E1:F2").Value = B
End Sub
```

20 points distributed as follows: 5 points for variable definition, 5 points for correct input and output from/to spreadsheet and 10 points the correct loop structure.



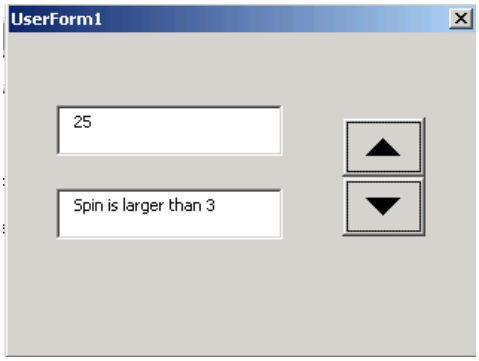
	A	B	C	D	E	F
1	2	2			0	16
2	-1	7			-8	40

5 points for the correct matrix on cells E1:F2

Question 4

```
Private Sub Spin_Change()
Box1.Value = Spin.Value ^ 2
If Box1.Value > 10 Then
Box2.Value = "Spin is larger than 3"
Else
Box2.Value = "Spin is smaller than 4"
End If
End Sub
```

20 points distributed as follows: 5 points for correct definition of Box1 value, 10 for correct loop structure, 5 points for correct definition of Box2 value.



5 points