```
 1  Public Class Integrale
 2      Dim num As Integer
 3      Dim med As Double
 4      Dim sc As Double
 5      Public Property n()
 6          Get
 7              Return num
 8          End Get
 9          Set(ByVal value)
10              num = value
11          End Set
12      End Property
13
14      Public Property media()
15          Get
16              Return med
17          End Get
18          Set(ByVal value)
19              med = value
20          End Set
21      End Property
22
23      Public Property scarto()
24          Get
25              Return sc
26          End Get
27          Set(ByVal value)
28              sc = value
29          End Set
30      End Property
31
32      Public Sub New(ByVal nDivisioni As Integer, ByVal MediaS As Double, ByVal
          ScartoS As Double)
33          media = MediaS
34          scarto = ScartoS
35          n = nDivisioni
36      End Sub
37
38      Public Function funzione(ByVal x As Double)
39          Return (1 / scarto * Math.Sqrt(2 * 3.14159265)) * (2.718281828 ^ -((x
              - media) ^ 2) / 2 * (scarto ^ 2))
40      End Function
41
42      Public Function rettangoliInf(ByVal a As Double, ByVal b As Double)
43          Dim baseRett As Double
44          Dim i As Integer
45          Dim altRett1 As Double
46          Dim areaRett As Double
47          Dim altRett2 As Double
48          Dim altRett As Double
49          Dim areaTot As Double
50          baseRett = (b - a) / n
51          For i = 1 To n
52              Try
53                  AltRett1 = funzione(a + (baseRett * (i - 1)))
54                  altRett2 = funzione(a + (baseRett * i))
```

```
55                  If altRett1 < altRett2 Then
56                      Altrett = altRett1
57                  Else
58                      Altrett = altRett2
59                  End If
60                  areaRett = altRett * baseRett
61                  areaTot += areaRett
62              Catch ex As Exception
63
64              End Try
65          Next
66          Return areaTot
67      End Function
68
69      Public Function rettangoliSup(ByVal a As Double, ByVal b As Double)
70          Dim baseRett As Double
71          Dim i As Integer
72          Dim altRett1 As Double
73          Dim areaRett As Double
74          Dim altRett2 As Double
75          Dim altRett As Double
76          Dim areaTot As Double
77          baseRett = (b - a) / n
78          For i = 1 To n
79              Try
80                  altRett1 = funzione(a + (baseRett * (i - 1)))
81                  altRett2 = funzione(a + (baseRett * i))
82                  If altRett1 < altRett2 Then
83                      altRett = altRett2
84                  Else
85                      altRett = altRett1
86                  End If
87                  areaRett = altRett * baseRett
88                  areaTot += areaRett
89              Catch ex As Exception
90
91              End Try
92          Next
93          Return areaTot
94      End Function
95
96      Public Function trapezi(ByVal a As Double, ByVal b As Double)
97          Dim baseRett As Double
98          Dim i As Integer
99          Dim altRett1 As Double
100         Dim areaRett As Double
101         Dim altRett2 As Double
102         Dim areaTot As Double
103         baseRett = (b - a) / n
104         For i = 1 To n
105             Try
106                 altRett1 = funzione(a + (baseRett * (i - 1)))
107                 altRett2 = funzione(a + (baseRett * i))
108                 areaRett = ((altRett1 + altRett2) * baseRett) / 2
109                 areaTot += areaRett
110             Catch ex As Exception
```

```
111
112             End Try
113         Next
114         Return areaTot
115     End Function
116
117 End Class
118
```