Chapter 5 Problems

1. Private Sub cmdCompute_Click()
   ' Compute the vehicle's average velocity
   Dim distance As Single, time As Single
   Dim aveVelocity As Single
   distance = CSng(Val(txtDistance.Text))
   time = CSng(Val(txtTime.Text))
   If (distance < 0) Then
     MsgBox "Distance cannot be negative!", vbExclamation, "ERROR"
   ElseIf (time <= 0) Then
     MsgBox "Time must be a positive value!", vbExclamation, "ERROR"
   Else
     aveVelocity = distance / time
     picOutput.Cls
     picOutput.Print "The vehicle's average velocity is "; aveVelocity; "miles per hour."
   End If
End Sub

3. Private Sub cmdSolve_Click()
   ' Solve for the roots of the user-entered quadratic equation
   ' by using the quadratic formula.
   Dim a As Double, b As Double, c As Double
   Dim discriminant As Single
   Dim equation As String
   equation = Trim(CStr(Val(txtA.Text))) & " x^2 + " & _
               Trim(CStr(Val(txtB.Text))) & " x + " & _
               Trim(CStr(Val(txtC.Text))) & " = 0"
   a = CDbl(Val(txtA.Text))
   b = CDbl(Val(txtB.Text))
   c = CDbl(Val(txtC.Text))
   discriminant = (b ^ 2#) - (4# * a * c)
   picOutput.Cls
   picOutput.Print "Quadratic equation: "; equation
   If (a = 0) Then
     picOutput.Print "a=0. This is not a quadratic equation."
   ElseIf (discriminant < 0) Then
     picOutput.Print "No real roots."
   Else
     picOutput.Print "Root 1: "; (-b + Sqr(discriminant)) / (2# * a)
     picOutput.Print "Root 2: "; (-b - Sqr(discriminant)) / (2# * a)
   End If
End Sub