

Проект «Движение тела, брошенного под углом к горизонту»

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PUBLIC CONST g AS Float = 9.81

PUBLIC SUB btnGo_Click()
DIM V0, A, S, L, h, t, x, y AS Float
DIM m, i, w, ht AS Integer

V0 = Val(TxtV0.Text)
A = Val(TxtA.Text)
s = Val(TxtS.Text)
h = Val(TxtH.Text)
m = 15
w = 600
ht = 400
Draw.Begin(DrawingArea1)
Draw.Line(10, 0, 10, ht)
Draw.Text("Y", 15, 5)
Draw.Line(0, ht / 2, w, ht / 2)
Draw.Text("X", w - 20, ht / 2 + 10)
FOR i = 0 TO 35 STEP 5
    Draw.Line(i * m + 10, ht / 2, i * m + 10, ht / 2 + 2)
    IF i <> 0 THEN Draw.Text(i, i * m + 5, ht / 2 + 5)
NEXT
FOR i = 0 TO 10 STEP 5
    Draw.Line(10, ht / 2 - i * m, 12, ht / 2 - i * m)
    IF i <> 0 THEN Draw.Text(i, 15, ht / 2 - i * m - 8)
NEXT
Draw.Line(s * m + 10, ht / 2, s * m + 10, ht / 2 - h * m)

l = Round(s * Tan(A * Pi / 180) - (g * s ^ 2) / (2 * V0 ^ 2 * Cos(a * Pi / 180) ^ 2), -5)
TxtL.Text = l
IF l < 0 THEN
    TxtRez.Text = "Недолет"
ELSE
    IF l > h THEN
        TxtRez.Text = "Перелет"
    ELSE
        TxtRez.Text = "Попадание"
    ENDIF
ENDIF

FOR t = 0 TO 10 STEP 0.01
    IF x >= s AND TxtRez.Text = "Попадание" THEN RETURN
    x = v0 * Cos(a * Pi / 180) * t
    y = v0 * Sin(a * Pi / 180) * t - g * t * t / 2
    Draw.Point(Round(x * m) + 10, ht / 2 - Round(y * m))
NEXT
Draw.End()

END
```