We are given three points A = (x1, y1), B = (x2, y2), and C = (x3, y3), which belong to the certain curve: y = ax^2 + bx + s, we want to find the secret s, where a, b, and s are unknown constants.

Step 1: Substitute the coordinates of each point into the quadratic equation

y1 = a(x1^2) + b(x1) + s
y2 = a(x2^2) + b(x2) + s
y3 = a(x3^2) + b(x3) + s

Step 2: Eliminate s by subtracting the equations:

Subtract equation (2) from (1):

(y1 - y2) = a(x1^2 - x2^2) + b(x1 - x2)

Subtract equation (3) from (2):

(y2 - y3) = a(x2^2 - x3^2) + b(x2 - x3)

Step 3: We now have two linear equations with two unknowns, a and b:

(1) (y1 - y2) = a(x1^2 - x2^2) + b(x1 - x2)

(2) (y2 - y3) = a(x2^2 - x3^2) + b(x2 - x3)

Step 4) Solve for a and b:

Rearrange equation (1) to keep a by itself and in terms of b:

(y1 - y2) = a(x1^2 - x2^2) + b(x1 - x2)
a(x1^2 - x2^2) = (y1 - y2) - b(x1 - x2)
(3) a = [(y1 - y2) - b(x1 - x2)] / (x1^2 - x2^2)

Substitute equation (3) into (2):

(y2 - y3) = {[(y1 - y2) - b(x1 - x2)] / (x1^2 - x2^2)} * (x2^2 - x3^2) + b(x2 - x3)

Simplify and solve for b.

Step 5) When b is found, substitute it back into equation (3) to solve for a:

a = [(y1 - y2) - b(x1 - x2)] / (x1^2 - x2^2)

Step 6) solve for s:

Use the equation y1 = a(x1^2) + b(x1) + s to solve for s:

s = y1 - a(x1^2) - b(x1)

Substitute the values of a and b into this equation to find s.