Finding the *n*th term of a quadratic sequence – worksheet

[For instructions see the video at http://www.waldomaths.com/video/QuadSeq01/QuadSeq01.jsp]

The quadratic sequence *S* has general(*n*th) term: $an^2 + bn + c$

Write the sequence *S* here:

S = ...

1st diff. = ...

2nd diff. = ...

[At this point these 2nd differences should all be the same. If not the sequence is not quadratic]

a = 2nd difference ÷ 2 , so a = ... ÷ 2 = ...

an^2 = ...

$S - an^2$ = ...

1st diff. = ...

[At this point these 1st differences should all be the same. If not the sequence is not linear]

b = 1st difference , so b = ...

bn = ...

$S - an^2 - bn$ = ...

[At this point these numbers should all be the same. They are the constant term.]

c = constant term , so c = ...

The sequence S has *n*th term: ..... n^2 ... . n ... .