

ACTION

RESPONSE

For each sequence state whether or not it is quadratic, if it is, give the formula.

- | | |
|------------------------------|--------------------------------|
| 1) 3, 2, 3, 6, 11, 18, ... | 4) 0, -4, 6, 66, 236, 600, ... |
| 2) 1, 3, 7, 13, 21, 31, ... | 5) 1, 3, 4, 7, 11, 18, ... |
| 3) -5, 0, 7, 16, 27, 40, ... | 6) -1, 3, 7, 11, 15, 19, ... |

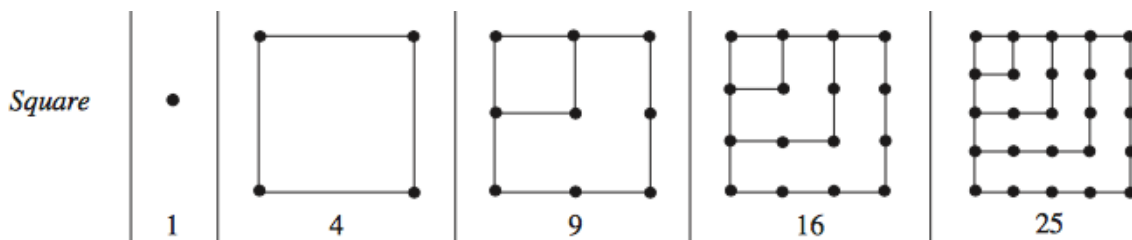
Fluency



Reasoning



The table shows how the first 5 square numbers are formed. Draw the first five pentagon numbers. Find the quadratic formula that represents the pentagon numbers



Problem Solving



a) The terms of a particular cubic sequence are given by $2n^3 - 1$

Find the first 6 terms of this sequence and then the first, second and third differences. What do you notice?

b) Check that the result you noted in part (a) is true for a cubic sequence of your own choice.



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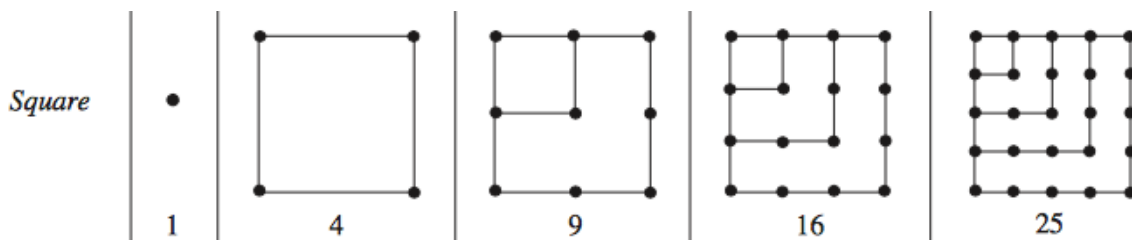
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