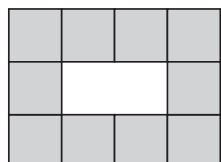
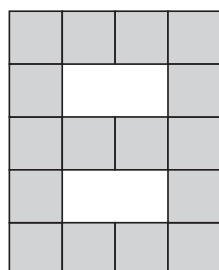


Building Patterns Constantly: Squares pattern

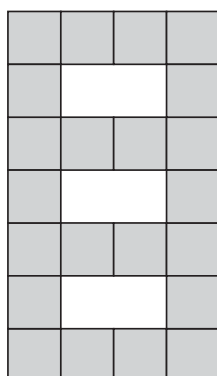
Look at this growing pattern of squares.



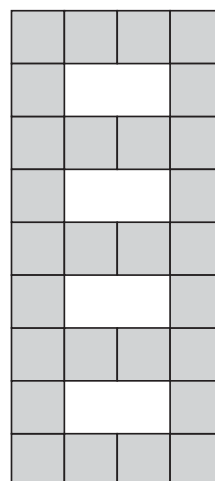
Term 1



Term 2



Term 3

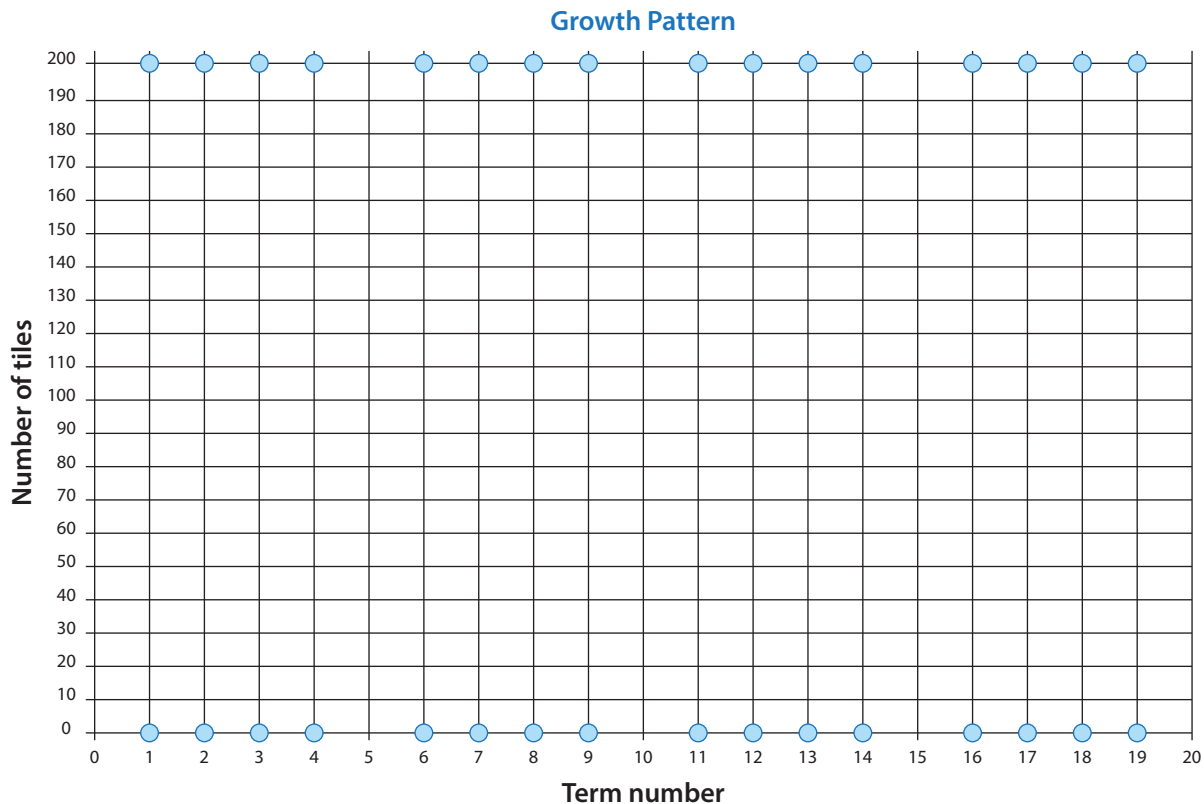


Term 4

1. Create a table for the first ten terms of the pattern.

Term number	1	2	3	4						
Number of tiles										


2. Graph the relationship between *Term number* and *Number of tiles* on this number plane.



3. Use the graph to predict the number of tiles you need to make Term 18.


Building Patterns Constantly: Squares pattern

4. These students have some ideas about how to work out the number of tiles for **any** term number.




Teina

Subtract one from the term number. Multiply that answer by six, then add ten.



Cameron

Multiply the term number by six, then add four.

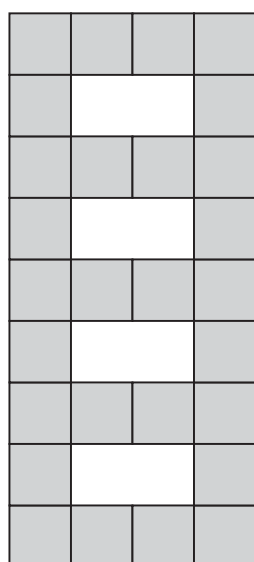


Phillip

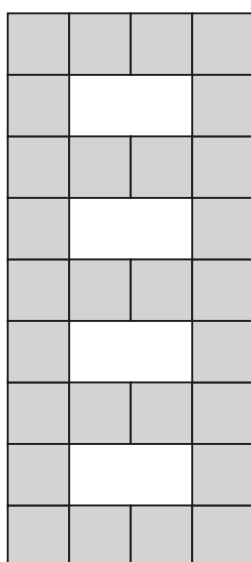
Double the term number and then add one. Multiply that answer by four then subtract the term number multiplied by two.

Try each student's rule for Term 18. Do the rules work? Explain.

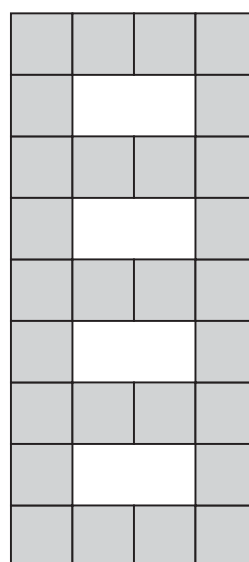
5. Draw on the left diagram to show why Teina calculates $3 \times 6 + 10$ for Term Four.
- Draw on the middle diagram to show why Phillip calculates $9 \times 4 - 8$ for Term Four.
- Draw on the right diagram to show why Cameron calculates $6 \times 4 + 4$ for term Four.



Teina



Phillip



Cameron

6. Suppose you had 94 square tiles. What is the largest term you could build?