



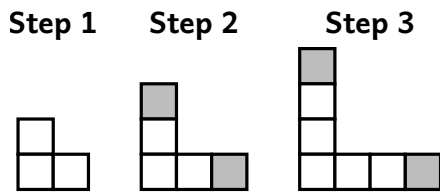
Learn a new puzzle

Growing Patterns

Look at how it grows. Answer the question.

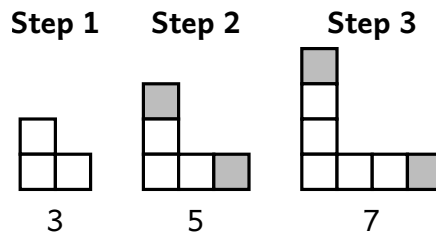
Trick: Jump to any step

1



Shade the new squares.
Each step adds 2: one on
each arm.

2



Count: 3, 5, 7. Step 1 has
3, then add 2 each step.

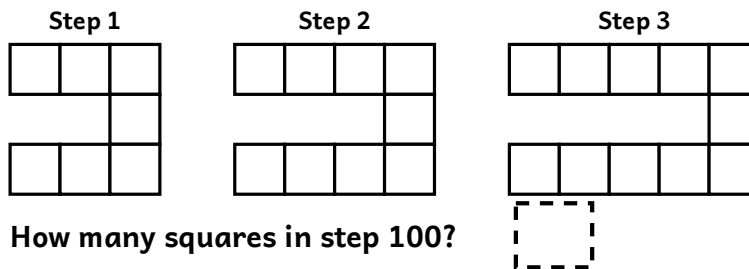
3

Step	1	2	3	...	100
Squares	3	5	7	...	201

+2 +2

Step 100 adds 2 ninety-
nine times: $3 + 2 \times 99 =$
201.

Try it



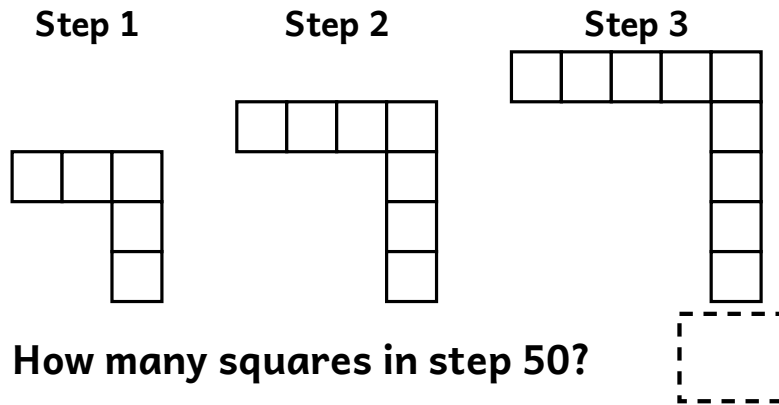
How many squares in step 100?

The answer is with
the other answers.

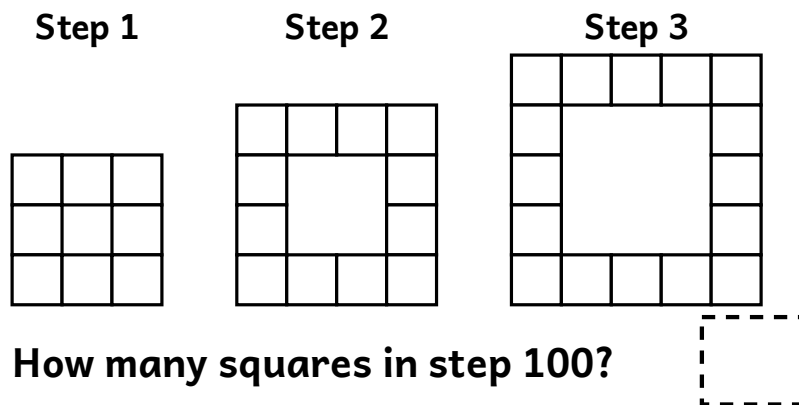
Talk about it: Ask: How many times does step 100 add the new squares? Why not 100 times?



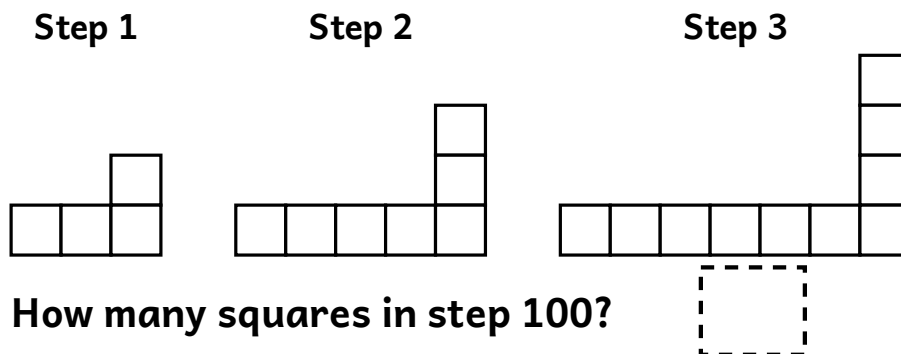
- 1 Growing Patterns Look at how it grows. Answer the question.



- 2 Growing Patterns Look at how it grows. Answer the question.

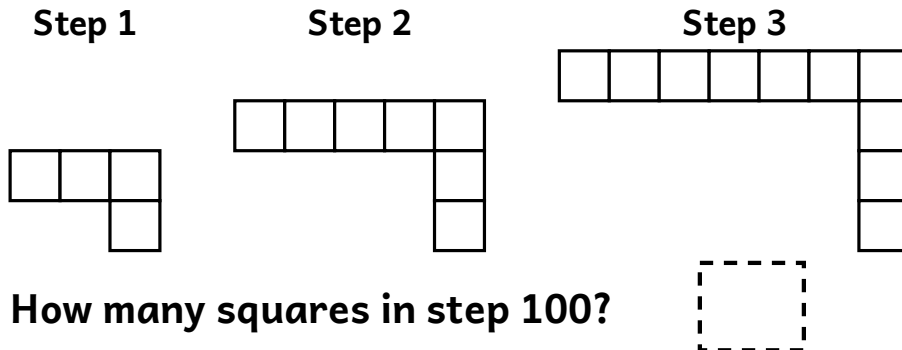


- 3 Growing Patterns Look at how it grows. Answer the question.

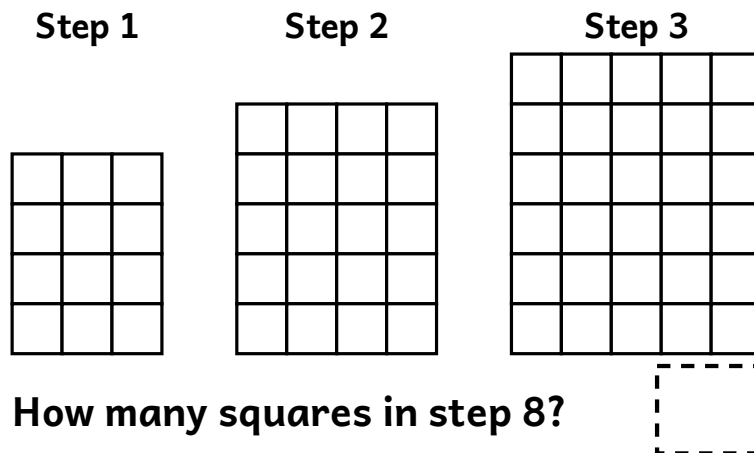




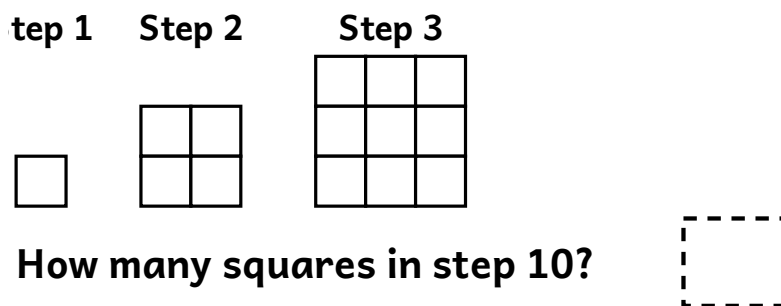
4 Growing Patterns Look at how it grows. Answer the question.



5 Growing Patterns Look at how it grows. Answer the question.

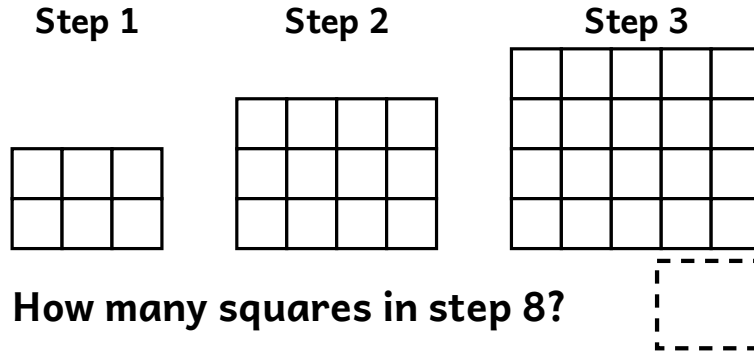


6 Growing Patterns Look at how it grows. Answer the question.

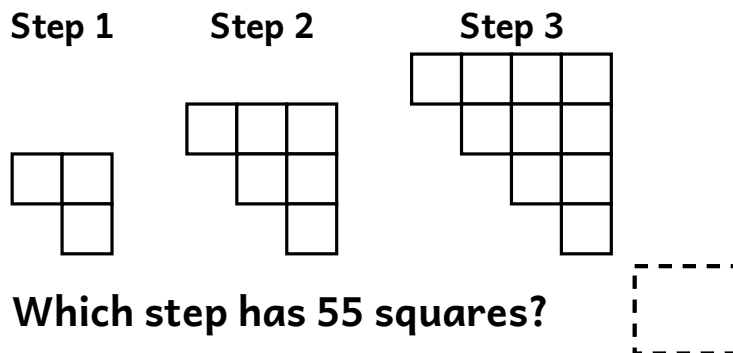




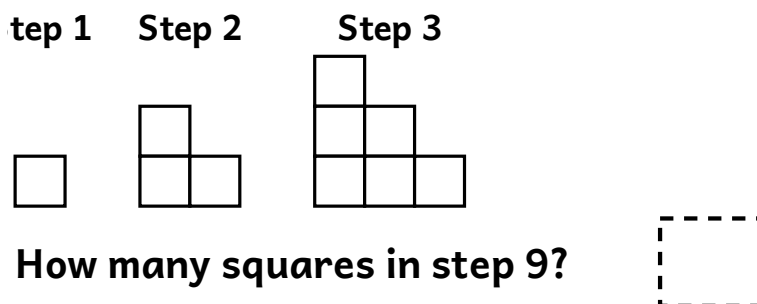
7 Growing Patterns Look at how it grows. Answer the question.



8 Growing Patterns Look at how it grows. Answer the question.



9 Growing Patterns Look at how it grows. Answer the question.

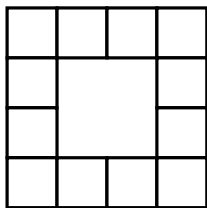




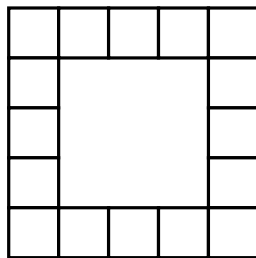
10 Growing Patterns Look at how it grows. Answer the question.



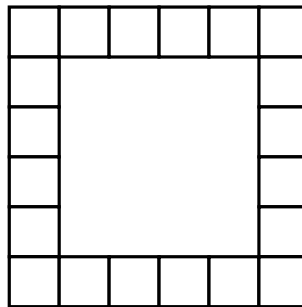
Step 1



Step 2



Step 3



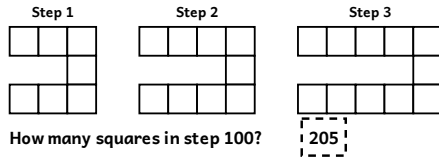
Write the rule: squares in step n =

$$\boxed{} \times n + \boxed{}$$



Answers For grown-ups. Cut off or keep this page aside until the puzzles are done.

Learn · Growing Patterns



#1

103 squares

103. Each step adds 2. Step 1 has 5, so step 50 has $5 + 2 \times 49 = 103$.

#2

404 squares

404. Each step adds 4 (one on each side: the corners count once). Step 1 has 8, so step 100 has $8 + 4 \times 99 = 404$.

#3

301 squares

301. Each step adds 3. Step 1 has 4, so step 100 has $4 + 3 \times 99 = 301$.

#4

301 squares

301. Each step adds 3. Step 1 has 4, so step 100 has $4 + 3 \times 99 = 301$.

#5

110 squares

110. Step 8 is $10 \times 11 = 110$.

#6

100 squares

100. Step 10 is a 10×10 square: 100 squares.

#7

90 squares

90. Step 8 is $9 \times 10 = 90$.

#8

Step 9

Step 9. Step 9 is a staircase 10 high: $1 + 2 + \dots + 10 = 55$.

#9

45 squares

45. Step 9 is a staircase 9 high: $1 + 2 + \dots + 9 = 45$.

#10

$4 \times n + 8$

$4 \times n + 8$. Each step adds 4, so step n has $4 \times n$, and step 1 has $12 = 4 + 8$. Check step 3: $4 \times 3 + 8 = 20$.