

Rules for patterns using words and tables

WHAT THIS LESSON TEACHES

In a growing pattern the term number tells the position and the value tells how many tiles are used. The table shows term-numbers in the top row and values in the bottom row so we can spot the rule.

→ Term 1 uses 3 tiles and term 2 uses 5 tiles.

→ Term 3 uses 7 tiles so the rule is value equals two times the term number plus one.

MODEL THIS ON THE BOARD

FINDING THE RULE FROM A TABLE

- 1 Look at the values for term 1 term 2 and term 3.
- 2 See how the value grows each time the term number goes up by one.
- 3 Write the rule as a sentence like value equals three times the term number plus one.

ANSWER KEY

a) 1 2 3 4 5

b) 3 5 7 9 11

c) value equals two times term number plus one

Q1: 9 tiles

Q2: 16 tiles

Q3: 21 tiles

Q4: 25 tiles

Q5: 20 tiles

a) Always — Each new term adds more tiles so the value grows.

b) Sometimes — Three rows are often enough but sometimes more rows are needed to see the rule clearly.

c) Never — That rule would give term 1 equals 3 but term 2 equals 4 not 5.

d) Always — Once the rule is known you can use it straight away for any term.

EXTENSION SHEET · STRETCH ANSWERS

S1: $\times 3 + 6$

S2: 129

S3: 63

S4: 68

S5: $+ 13$