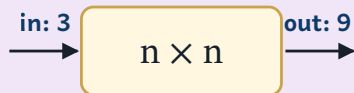


CUBES FOR A SIZE-6 STAIRCASE

- 1 Begin from the size-5 total of 15 cubes.
- 2 Add the next counting number 6: $15 + 6 = 21$.
- 3 A size-6 staircase is therefore built from 21 cubes.

WARM-UP

On the blank staircase grid fill in the growing cube totals and the jumps.



1. Write the cube totals 15, 21 and 28 under sizes 5, 6 and 7
2. Write the jumps +5, +6 and +7 beside those three steps
3. Mark the totals 55 and 78 for sizes 10 and 12 at the top of the grid

PRACTICE

- 1 Tom is making and building a size-5 cube staircase for his model house. How many cubes does the size-5 staircase need?
- 2 Sara has already built a size-4 staircase that uses 10 cubes. She adds the next step of 5 cubes. How many cubes are in the staircase now?
- 3 Liam finishes a size-13 staircase of 91 cubes and wants to build one more step. He adds 14 cubes. What is the new total?
- 4 Ava is making and building a tall size-8 staircase from cubes. Using the add-the-next-counting-number rule, how many cubes will she need?
- 5 Ben plans a size-10 cube staircase for his building display. Predict the cube count by adding each next counting number up to 10.
- 6 Nora wants the cube total for a size-12 staircase. Start from a known smaller size and keep adding the next counting number until you reach size 12.

? ALWAYS, SOMETIMES, NEVER

Always, sometimes or never true? Write A, S or N.

- | | |
|--|---|
| a. A size-3 staircase needs 6 cubes ☐ | c. A size-4 staircase has 9 cubes ☐ |
| b. Each new size adds one more cube than the amount added for the size before ☐ | d. A size-10 staircase needs fewer cubes than a size-8 staircase ☐ |