Explaining resulting patterns

6 practice questions

1. A constant-step pattern is 3, 7, 11. Explain the rule and give the next number.

$7 - 3 = 4$; $11 - 7 = 4$; $11 + 4 = 15$.

Answer: Add 4 each time; next is 15.

2. Start at 24 and subtract 5 each time. Explain the next 3 numbers.

$24 - 5 = 19$; $19 - 5 = 14$; $14 - 5 = 9$.

Answer: 19, 14, 9.

3. A pattern starts at 2 and doubles. A child writes 2, 4, 6, 8. Explain the mistake.

Double 4 is 8; double 8 is 16.

Answer: The child added 2 instead of doubling. It should be 2, 4, 8, 16.

4. Separate tables each seat 4 children. Explain the totals for 1, 2 and 3 tables.

$1 \times 4 = 4$, $2 \times 4 = 8$, $3 \times 4 = 12$.

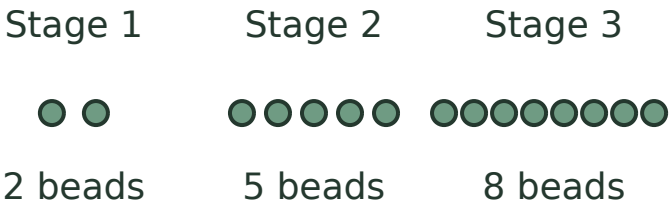
Answer: 4, 8 and 12 seats. Each extra table adds 4 seats.

5. The constant-step sequence is 1, 6, 11, __. A child says 17. Explain and correct it.

Each shown step adds 5. $11 + 5 = 16$, not 17.

Answer: The next number is 16.

6. Explain how you know stage 4 of this bead pattern has 11 beads.



Check $5 - 2 = 3$ and $8 - 5 = 3$, then add another 3.

Answer: The stages have 2, 5 and 8 beads, adding 3 each time. Stage 4 has $8 + 3 = 11$.