# Pattern Steps

Find the rule and continue each number pattern.

**2.PAR.4.1** · Identify, describe, and create a numerical pattern resulting from repeating an operation such as addition and subtraction.

Name _____ Date _____

## FIND THE CHANGE

In these numerical patterns, repeat the same addition or subtraction each time. Find the change between neighboring terms, then use that rule to continue or create a pattern.

**Worked example**

A frog jumps to lily pads numbered 5, 10, 15, __. What number is next?

1. Start at 5.
2. Add 5 to get 10.
3. Add 5 again to get 15.
4. Add 5 again to get 20.

**20**

### 1. Practice

Toy car labels show 4, 9, 14, __. What number comes next?

### 2. Practice

A pet shop sign shows 18, 16, 14, __. What number comes next?

### 3. Practice

Fish bowl numbers are 9, 13, 17, __. What number comes next?

### 4. Practice

Cookie jar labels show 25, 22, 19, __. What number comes next?

### 5. Practice

Choose a starting number and an addition or subtraction rule. Create four whole-number terms. Explain your rule and how each term follows it.

**6. Apply**

Lena earns 2 more game points at the end of each round. Her totals are 22, 24, 26, __. What will her next total be?

**7. Apply**

Noah has 32 prize tickets. He trades 3 tickets each turn. His tickets are 32, 29, 26, __. How many tickets does he have next?

**8. Challenge**

The scoreboard numbers are 30, 27, 24, 21. Jae says the rule is subtract 4. Is Jae correct? Write the correct rule.

**What to accept**

Accept the number alone for the practice and word problems. For the challenge, accept any clear statement that the pattern goes down by 3 each time.

**1. Practice**

19

**2. Practice**

12

**3. Practice**

21

**4. Practice**

16

**5. Practice**

Answers vary. Example: 24, 20, 16, 12; subtract 4 each time.

**6. Apply**

28

The total increases by 2 each round. Add 2 to 26 to get 28.

**7. Apply**

23

The number of tickets decreases by 3 each turn. Subtract 3 from 26 to get 23.

**8. Challenge**

No. Subtract 3 each time.